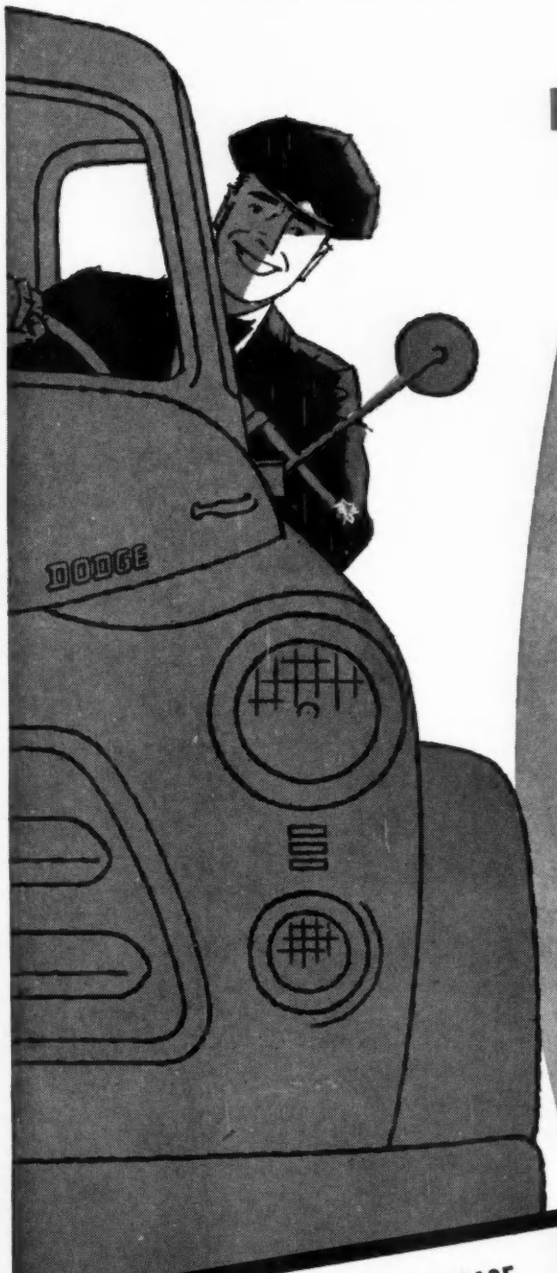
DITORIAL INDEX—PAGE 2

MARCH, 1954

CCJ COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR TRUCK AND BUS FLEET OPERATORS

New DODGE "Job-Rated" TRUCKS



WITH

V-8 ENGINES—up to 172 horsepower, most powerful in the popular field—and famous Dodge Sixes.

MOST VISIBILITY of any leading makes—951 square inches of one-piece windshield!

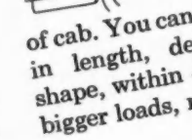
MOST CAB COMFORT, with easy-chair seats, new cab sealing against dirt, dust.

SHARPEST TURNING and easiest handling of any trucks, thanks to new steering system.

ALL ADD UP TO

"A better deal for the man at the wheel"

EXTRA PAYLOAD SPACE



. . . at no extra cost! Compact Dodge tractors (1½- through 3½-ton) are only 102" from bumper to rear of cab. You can take trailers up to 35 ft. in length, depending on type and shape, within 45-ft. over-all limit. Haul bigger loads, make more money!

See "Break The Bank" with Bert Parks on TV (ABC, Sundays).
Hear "The Roy Rogers Show" on radio (NBC, Thursdays).
See "Make Room For Daddy" with Danny Thomas on TV (ABC, Tuesdays).
Enter the Dodge 40th Anniversary All America Contest. See your dealer.

"Hard To Get But Worth Waiting For"

Quality Leadership

FOR MORE YEARS THAN ANY OTHER BODY

Leadership in manhigh delivery bodies involves:
1–Quality 2–Economy of operation and maintenance
3–Longer life with fewer lay ups
4–Higher Resale Values

Delivery bodies that rust and corrode excessively, dent easily or depreciate rapidly are no bargains. Corrosion of steel is a touchy subject — its cost in repairs is appalling. Denting of thin steel bodies is noticeable on every busy street. Excessive body weight is expensive in gasoline, tires, brake and clutch repairs, spring and king pin replacements. Depreciation of investment in trucks can be measured at any used truck sale — the body makes the market price!

Aluminum Alloy Bodies offer greater resistance to corrosion, greater protection against denting, and bring twice as much on resale as used trucks with thin steel bodies. That's leadership in economy and long life and it repays your investment, *thru savings!*

Leadership in lightweight strength too — aluminum weighs only ⅓rd as much as steel, so we can use thicker panels — ⅛"-thick *heat-treated* Aluminum Alloy in Olson side panels, rub rails, separate side skirts, rear panels and floor panels.

Leadership in the use of aero-design principles proved by Grumman and other plane builders — stress-bearing-shell construction, providing more loadspace with less overall width due to the elimination of cumbersome posts and ribs in the side panels.

Nobody builds a perfect body, but resale prices prove which Delivery Bodies are best:

> "We buy and sell used trucks all over this country. Trucks with Olson Aluminum Bodies are easily resold — we can't get enough of them." Fred Hilton, Truck Traders Corp., Long Island City, N. Y.

Demand also proves Olson leadership — Aluminum Alloy Bodies are hard to get but *worth waiting for.*

Don't take our word for it — ask our users. Ask truck dealers who sell both steel and aluminum bodies — Chevrolet, Ford, GMC. Ask your pocket book about the cost of body maintenance and then buy the Economy and Long Life of Quality.

Ask about the standard equipment features of Olson Kurb-Sides that cost extra on other bodies. Ask us for a sample of ⅛"-thick Aluminum Alloy and our catalogue of long-lasting Olson Kurb-Side Bodies — *free on request.*

OLSON KURB SIDE

J. B. E. OLSON CORPORATION ALUMINUM ALLOY BODIES BY Grumman
1740 BROADWAY, NEW YORK 19, NEW YORK

COMMERCIAL CAR JO

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JOURNAL

CCJ READER DIGEST

Reciprocity Crisis . . . Threat to Truck Use

Retaliatory taxation, resulting from the breakdown in highway-use reciprocity, is increasing. Piled on top of ton-mile, gross receipts and other third-structure levies, it could break the back of efficient private and for-hire truck use. This special report on the current situation includes a map and summary of the states involved. Page 64.

Special Body Ups Payload Space—and Profits

Ivers Transportation Co., Stockton, Cal., uses a custom-made truck and full trailer to obtain a total inside length of 52 ft within an overall outside length of 59 ft, 11 in. Five feet longer inside than a tractor and two 24-ft trailers, it utilizes a Cummins NHHB-600, pancake-type diesel engine mounted amidships under the bed of the truck. Page 66.

Precision Maintenance Program Pays Dividends

Torrens Smith of Louisville Transit, Louisville, Ky., outlines the precision preventive maintenance program that gives the diesel buses in this fleet an average of 4.9 mpg of fuel, 535 mpg of oil. Highlights include chrome rings, careful engine break-in, clean fuel, precision injector repair, periodic oil and air filter service, regular oil analysis, and careful check on driver's habits. Page 68.

How to Get More Miles from a Diesel

To get more mileage, diesel engine operation requires careful analysis of causes of early failure says Don Smith of California. To avoid early failure, his check points are proper fuel, cleanliness, sufficiently high engine temperature, matched component engine parts, engine break-in before loading, good lubrication. Page 72.

Are We Insured for Murder?

Automobile accidents make fleet operation more hazardous, and are added into basic insurance actuarial figures often reflected in fleet rates. Insurance man Robert H. Oppenheimer, Oppenheimer Bros., Kansas City, Mo., says present coverage provides no incentive to drive safely, suggests changes in standard policy. Page 76.

Inert-Gas Welding for Truck Body Work

R. E. Stentz and George Kotcher, Air Reduction Sales Co., review the equipment needed and how to get the savings possible using inert-gas tungsten arc welding for aluminum sheet and inert-gas metal arc welding for aluminum plate. Equipment is relatively inexpensive in terms of labor time saved where volume work is done. Page 86.

BOWER

Finest quality in replacement roller bearings

Bower quality plus Federal-Mogul availability give you the best in roller bearing replacement . . . and the best in service. Bower Spher-O-Honed tapered roller bearings are precision made for rugged service, with better load distribution and quieter operation. When you buy straight or tapered roller bearings — buy Bower for complete dependability!

BEARING FEDERAL Mogul SERVICE

Ask Your Federal-Mogul Jobber!

FEDERAL-MOGUL SERVICE

Division of Federal-Mogul Corporation

DETROIT 13, MICHIGAN

The OVERLOAD

EDITORIAL COMMENT

"I Don't Want a *Reciprocity* Romance"

WITH apologies to the copyright owners, we can be reasonably sure that most readers have been subjected in recent times to the popular ditty whose title sounds so much like ours. And we are all but certain that two very erudite Governors, name of Dewey and Lausche (among others), have been humming the tune with great glee including that punchy line: "No, no, no not me."

For—as everyone knows by now—the reciprocity romance is on the rocks in several states and headed for trouble in many more. What can we do about it?

For a *start* at the answer, we hope you will read the article, "Reciprocity — Threat to Profitable Truck Use," which begins on page 64 of this issue. It was made possible only after thorough research and is published *now* against the advice of many highly valued friends who suggested we wait and see what happened at various conferences necessarily referred to as future events when this issue went to press. But it *had* to be published now because tomorrow may be too late.

We are reminded of a paragraph printed here two years ago dealing with a different but similar problem. It went like this:

"It is unfortunate that the history of the truck industry has all-too-often been characterized by the expression 'Too little and too late.' A perfect example was the case of the New York 'Ton-Mile' tax. Months in advance this publication and various trade associations had warned that it was coming, what the provisions would be, and what united action was urgently needed. The united action failed to materialize but the bill did."

It went on to say that *after* the bill passed there was a different story but how much better it would have been had the action come before instead of after the bill had been passed.

Unfortunately history has a way of repeating itself. With only minor variations we're very much afraid the paragraph above applies, to the Buckeyes who only on January 30 of this year produced one of the best guides to public relations we have yet seen. Entitled "Put Public Opinion to Work for You," the 16-page brochure of the Ohio Trucking Assn. deserves much favorable comment.

We hope it will do much good—in future campaigns even if too late for the present crisis. But we know it will do no good at all, nor will our own article, unless it does the only thing any printed page can do. Namely build a fire under peoples' tails and get them to work in their own way, under their own good judgment, for their own profit, and perhaps for their own preservation.

In considering these plans, a long look is necessary. As of March, 1954, we have seen only the beginning of the reciprocity battle. While some states are in trouble now, only a relatively few still have legislatures in session. But next year in all but four states (Kentucky, Louisiana, Mississippi and Virginia) legislators will be eyeing the trucking industry critically. The tint of their spectacles, whether rosy or fire red, is in large measure up to YOU during the immediate months ahead.

Bart Rawson
Editor

At Your Service

TIMELY NOTES ON MAINTENANCE AND OPERATION

by MURRAY SIMKINS Managing Editor

Use Torque Wrench for Plugs

ELECTRIC Auto-Lite says that use of improper torque in installation often has caused spark plugs to perform poorly and actually fail in service. If the plugs are not tightened enough, they will run hot, resulting in abnormal electrode erosion and may cause pre-ignition in the cylinder, Auto-Lite says. By the same token, if the plugs are over-tightened, the seals may be damaged or the threads may be stripped.

The company recommends a torque wrench for consistent results, especially in view of the trend to high compression engines which require maximum heat dissipation from the plug electrodes because of the extreme heat developed in the combustion chamber.

In cast iron heads, 10MM plugs require 15 ft. lbs.; 14MM, 30; 18MM, 40; and 7/8 in.-18MM, 45. When installing spark plugs in engines with aluminum heads, five pounds less than that specified for cast iron heads is recommended.

Inconel Muffler Lasts for 800,000 Miles

CAROLINA Carriers Corp., after testing some Inconel heavy-duty truck mufflers, found that they could save about $500 per truck in repair and replacement costs with a metal that would last practically the life of the truck. Where carbon steel was burning through at 25,000 to 40,000 miles, the Inconel muffler showed no signs of damage after 800,000 miles. Today, 56 of Carolina Carrier's 80 trucks are so equipped, says International Nickel Co.

On Gasoline Additives

OF THE additives evaluated . . . , none appears at this time to provide a sufficient advantage in minimizing the problems associated with combustion chamber deposit formation to make their use in today's motor gasoline attractive—that was one of the conclusions made by Tongberg, Hakala, Moody and Patberg, of Esso Laboratories in a paper presented at the annual SAE meeting. After a series of carefully controlled tests on a wide selection of passenger cars operating under what would be considered normal conditions, the authors concluded that the most harmful effect of combustion chamber deposit accumulation in cars now on the road is the increase they cause in final or equilibrium octane requirements. Preignition and spark plug fouling, they said, do not appear to be pressing problems in current engines. They conceded, however, that the problems caused by deposits justify more work to develop satisfactory additives. Those interested in securing more information on specific additives and their effect on these engines should read paper No. 236A, available from the Society.

Lubrication of New and Rebuilt Engines

WHEN a new or rebuilt engine is installed in a vehicle or on a dynamometer the crankcase should be filled to the proper level by use of a pressure ball attached to the oil gallery of the engine. Filling the engine by this method insures getting oil to all the bearings—oil pump and valve lifter bodies. The oil pressure gauge on the dash should be carefully observed while filling and upon starting the engine. While filling the engine with the pressure ball the oil gauge will move slightly after all oil passages are filled. Upon starting the engine, after the above procedure is used, the gauge hand will immediately raise to the proper pressure. If not, shut off engine immediately. Locate and correct trouble. — from White Coach Service Bulletin.

What's New

A NEW method of processing tread rubber for retreading — developed by U. S. Rubber — involves putting skid resistance and traction into the camelback at the factory through a deep-cut basket-weave design. The rubber is shipped to the tire rebuilder with this design permanently cut into it. Surface traction is said to be 30 per cent greater and there is no reduction in tread mileage.

New driver self-rating scales called Driver Scalograms provide a simple method by which drivers can rate themselves and compare their ratings with an average for "good drivers." Copies are available at three cents a piece from Center for Safety Education, New York University, Washington Square, N. Y.

An Audio Speed-Informer, developed by Code Industries, Inc., of Rochester. It does just that—informs the driver through a buzzer that he is exceeding

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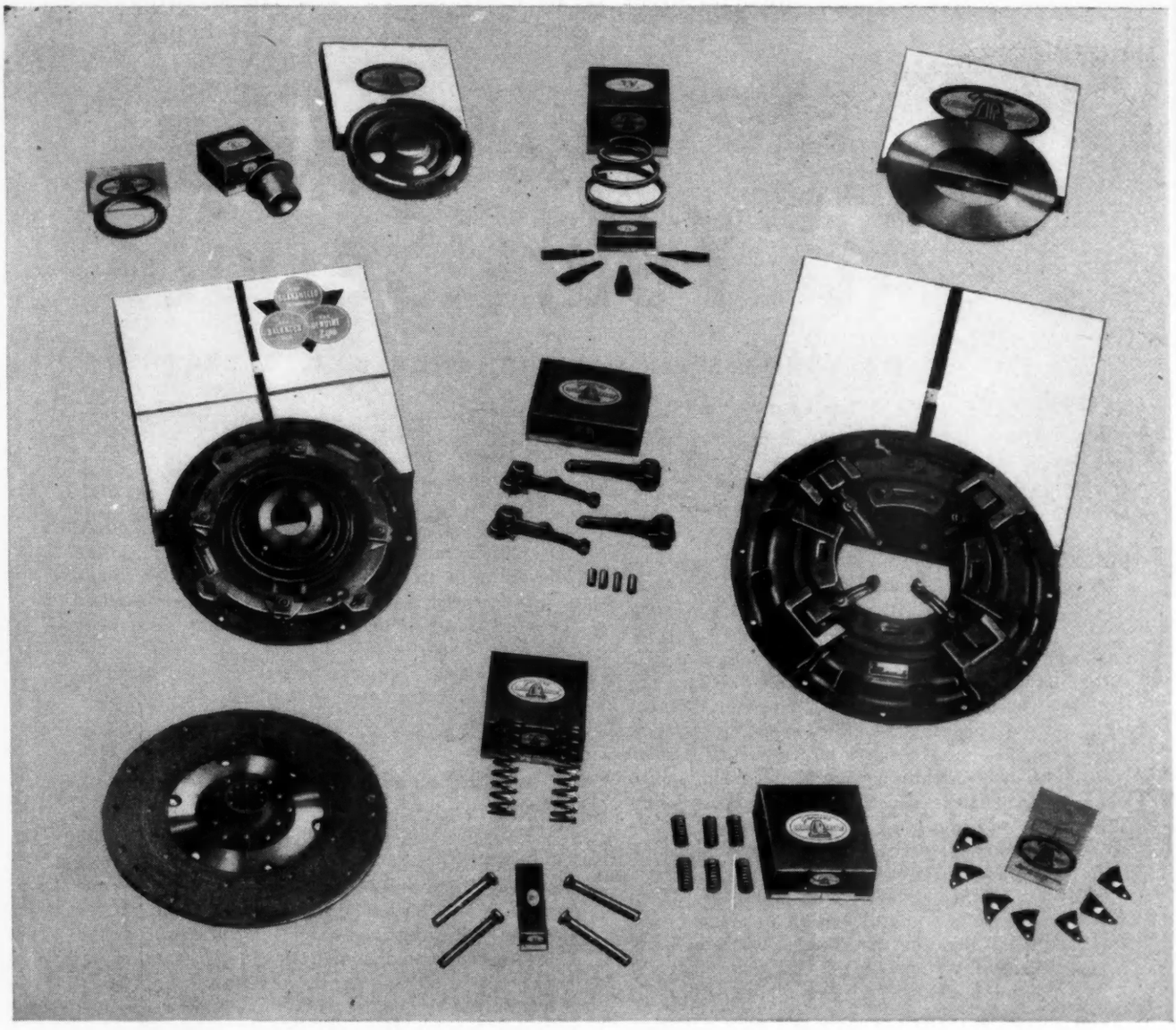


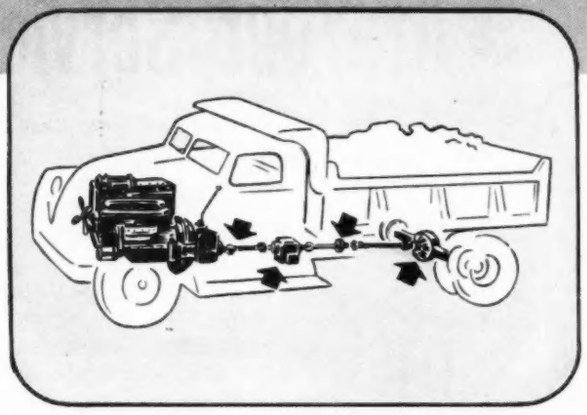
Genuine Lipe Clutch Parts

are not like the original equipment — they are the original equipment!

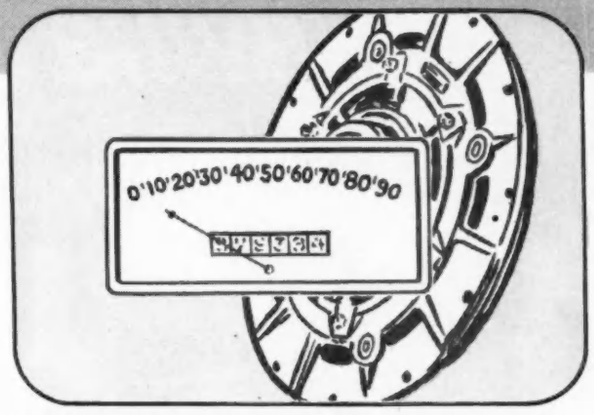
In a typical Lipe production run of, say, 10,000 clutch parts, it's anybody's guess just where piece No. 7234 may end up. It may be snatched from the tote box by an assembler and built into a new Lipe Clutch. Or a stock clerk may pass it out to a mechanic working on a factory-rebuilt clutch. Or perhaps one of the girls in Spare Parts includes it in a shipment to an authorized Lipe distributor.

The point is, it's merely a matter of chance whether piece No. 7234 is used in the factory or in the field. Either way, you can be sure you're getting a part that meets Lipe's rigid specifications.

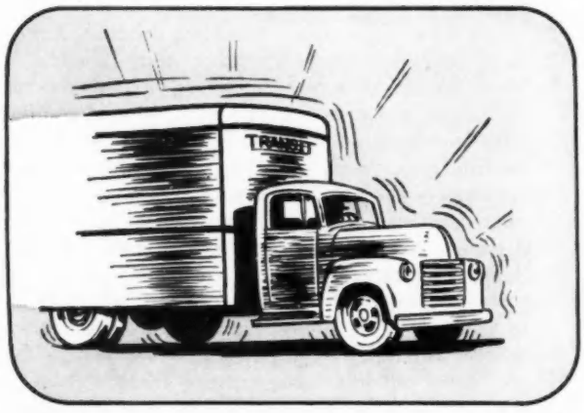
Why *Genuine* Lipe parts are less costly



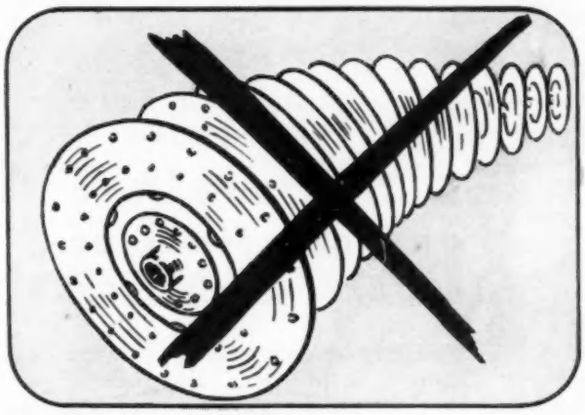
LESS WEAR AND TEAR ON DRIVE LINE—An unbalanced pressure plate can cause vibration—set up shock waves that do untold damage to vital gears, drive shaft, axles, universal joints. Every genuine Lipe pressure plate is balanced.



LONGER CLUTCH LIFE—Poor quality pressure springs quickly lose their torque capacity—cause slippage, costly damage to the pressure plate, driven disc and engine flywheel. Lipe's chrome silicon steel pressure springs maintain maximum torque capacity.



NO DRAG OR GRAB—Warped pressure levers disturb the inbuilt parallelism of the clutch—encourage cocked plates and high points on the friction facing. Lipe levers are carefully inspected for warpage immediately after heat treating.



FEWER FACING REPLACEMENTS—Substitute facings lacking the necessary strength, wear rate and co-efficient of friction values reduce clutch efficiency and shorten clutch life. For far fewer overhauls, rely on the advice of your Authorized Lipe Parts Distributor.

Genuine Lipe Parts are best ~~in~~ *for* the long run!

Authorized Lipe Service Stations are located from coast to coast. For quick service on *genuine* Lipe parts, look for this ad in the yellow pages of telephone directories in principal cities.

FREE—Wall Chart showing Lipe Type ML Clutch adjustment procedure . . . also Clutch Service Manuals on Type TC and Type ML Clutches. Write for copies.

LIPE ROLLWAY

Lipe-ROLLWAY CORPORATION

Manufacturers of Automotive Clutches and Machine Tools

Syracuse 1, N. Y.

CCJ At Your Service

Continued from Page 9

his pre-set speed limit. A dial on instrument panel provides for adjustment over the entire speed range.

A new idea in financing of truck and passenger car leasing—called Equipment Trust Fleet Leasing—has been set up by Sam Lee of Lee Fleet Management, Inc., of Cleveland. A detailed description of the plan is available by writing the above company, Keith Building, Cleveland 15, Ohio.

Motor Oil and Fuel Consumption

BECAUSE of increased interest recently in additive oils and their effect on fuel consumption we have briefed some of the highlights of Carl Georgi's paper on the subject, recently prepared for the SAE Annual meeting. Here's what he says about the subject:

Since friction, power and fuel economy have become such popular by-words in connection with engine lubrication, and since no published engine test data seem to be available, we thought it might be of some interest to explore the subject in an engine. This idea was further advanced by certain rumors we have heard that engines are frequently quite unimpressed by tests in laboratory apparatus, or by the claims of advertising copy writers.

In considering friction reduction through lubrication from an engine's viewpoint, it would appear that if any given oil does have superior friction reducing properties, such would readily be reflected by an increase in engine power output at any fixed conditions of engine speed and rate of fuel consumption. Conversely, at any set conditions of engine speed and power output, an improvement in fuel economy should become evident. Since fuel economy or "miles per gallon" is the item of greatest interest to most motorists, this test program was set up on that basis.

A popular make of passenger car engine was mounted on a dynamometer for conventional fuel consumption measurements under a variety of speeds and loads, and with a variety of motor oils. The usual precautions were taken both with the engine and the operating procedure to insure optimum uniformity of test conditions. Tests on each oil were run at engine speeds equivalent to 15, 30, 45 and 60 miles per hour on the road, and at loads of 25, 50, 75 and 100 per cent.

The first item of interest is that oil viscosity has a more significant effect on fuel economy than does oil composition. This is in accord with theoretical considerations, since the internal friction of oil films naturally increases with increase of oil viscosity.

The second item of interest is that the three proprietary crankcase additives showed no differences in fuel consumption from that of the motor oil to which they were added, within the limits of test reproduci-

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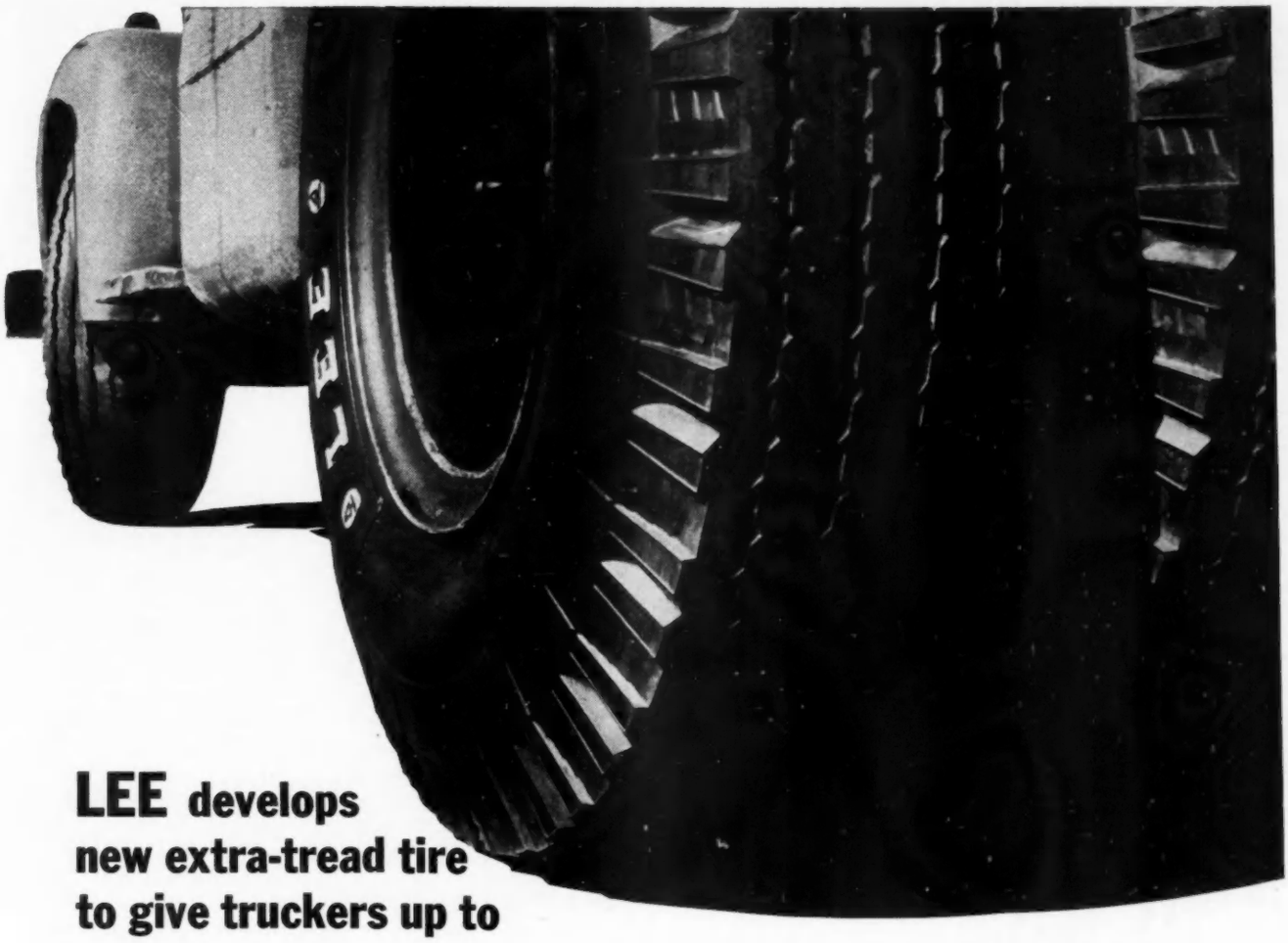

LEE develops new extra-tread tire to give truckers up to

50% More Original Miles

The LEE SUPER DE LUXE EXTRA TREAD 5-RIB

THIS NEW LEE TIRE . . . suitable for *any* wheel position on either truck or trailer . . . gives up to 50% more original mileage *by actual test*, yet costs only about 12½% more than a standard highway tire.

IMPROVED TREAD. Called the Maximile Tread, it is 44% deeper on the average, and has a much flatter contour. This puts more rubber in contact with the road—distributes the load more efficiently to increase tire life. Buttresses in the grooves give tread members extra support and develop a caterpillarlike action for throwing off small stones. Specially designed tread grooves prevent small cuts from growing into long tread cracks. Deep-cut shoulder design aids in controlling and throwing off heat developed in the shoulder area. Shoulder design is engineered to prevent radial cracks.

FLEXLOK IMPROVES THE CARCASS. Flexlok is an exclusive Lee development. This super-efficient cord-coating formula increases adhesion by 300%, makes cord separation from the rubber bond practically impossible—resists the effect of continuous flexing better than any previously developed adhesive, gives longer cord life. Flexlok reduces internal heat and is highly resistant to heat developed by normal flexing action of the tire. Tire growth is held to a minimum because of equalized tension on cords.

LUBRI-CUSHIONS LOWER COST-PER-MILE. Lubri-Cushions—special thin sheets of rubber between the plies—give longer carcass life by lubricating the plies and reducing internal friction, with its destructive heat. They protect against bruise breaks, because each Lubri-Cushion helps equalize flexing strain over the entire road impact area. They maintain carcass strength because they keep plies from separating. All this adds up to a stronger carcass that—combined with the better tread—increases original mileage and recap miles, too.

LEE TIRES

SEND COUPON FOR ADDITIONAL INFORMATION

LEE RUBBER & TIRE CORPORATION
Conshohocken, Pa. **2C**

Please mail your new folder describing the many cost-cutting and performance advantages of the new Lee Super DeLuxe Extra Tread 5-Rib Truck Tire.

Company.....

My name.....

Street.....

City.....Zone.....State.....

CCJ At Your Service

Continued from Page 12

bility. This seems to be rather clear evidence that the engine did not recognize any friction reducing properties in graphite, "moly" disulfide, or lead soap.

The third item of interest is that all of the low V.I. oils consistently caused more fuel consumption than the high V.I. oils on an equivalent 210° viscosity basis. The differences are more pronounced at the lower engine loads.

The fourth item of interest is that all of the oils containing V.I. Improvers consistently developed less fuel consumption than the other oils on an equivalent 210° viscosity basis. The differences become more pronounced at lower engine loadings, as well as with higher oil viscosities. While indicated savings in fuel consumption with lighter oils appear to be quite significant, they apply only to "ideal" laboratory conditions with very close control of engine operation and precision measurement of fuel consumption. On the road, it is doubtful if fuel consumption differences of this order could be detected by the average motorist.

Replacement of Brake Blocks

RAY Moore, of Conestoga Transportation Co., speaking of heavy-duty brake maintenance recently at the SAE meeting in Detroit, had this to say about replacement procedures. Note, truck fleet operators . . .

Replacement of brake blocks in complete sets is *preferred*, installing front and rear blocks at the same time. On some vehicles this may be difficult to accomplish but every effort should be asserted to change blocks in complete sets. As an example, should the rear lining wear out and be replaced with new lining while the front lining, though nearly worn out would be left on to get several more thousand miles of service, a great differential of friction would exist. The results would be evident immediately. The new lining would be forced to do excessive amount of work with its resultant high temperatures and short lining life. This condition accelerates the polishing and glazing of the front lining which in turn does less and less of its designed work load. Conditions such as these cause more rapid wear of the rear lining, locking wheels, squealing and grabbing brakes. This reaches a point where the repeated renewals of rear brake blocks may cost more than necessary frequent renewals of complete sets.

If new linings are installed on any one axle, surfaces of the remaining blocks should be sanded (must use sand paper or circle grinder) Where the wear lifferential exists between axles, the lining should be renewed on both axles at the second brake relining on any one axle. If for any reason only one axle is re-

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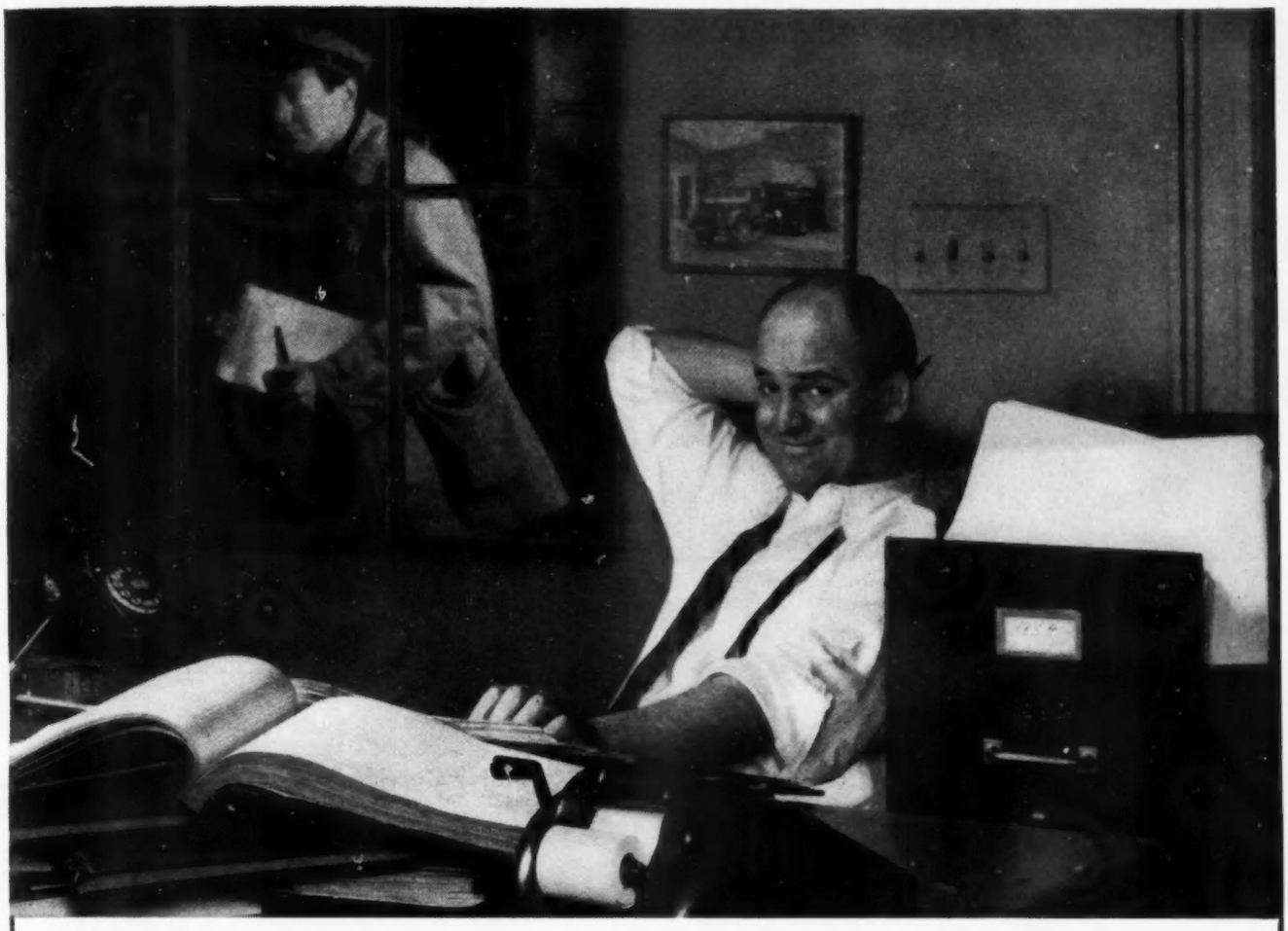


DO YOU KNOW WHAT?

–there's money in being a "softie!"

I CAME up the hard way–so when my fleet's drivers asked for AIRFOAM seat cushions in our new rigs, my first answer was "SOFTIES!"

"Maybe those other drivers we meet at the dog-wagons are softies, Boss," growls one of my boys–"but they're outdrivin' *us* since they've been ridin' on AIRFOAM!"

"I've been around, too," chimes in my bookkeeper, "and the consensus is that AIRFOAM cushioning outwears all others–and is easier on seat covers, too!"

So I was a softie. I gave in–and am I glad! Even after 150,000 miles and more,* not ONE of our full-depth AIRFOAM cushioned seats needs repairs or replacements! And my drivers are on the ball like never before!

**From actual on-the-job records. For more facts and figures to help you cost-wise – and morale-wise – write Goodyear, Automotive Products Dept., Akron 16, Ohio.*

AIRFOAM contains over half a MILLION air cushions to each cubic inch! That's why AIRFOAM cushioned seats "breathe" with every motion–stay cool and fresh and buoyantly comfortable for the life of the truck!

Airfoam—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

Airfoam MADE ONLY BY GOODYEAR

THE WORLD'S FINEST CUSHIONING

We think you'll like "THE GREATEST STORY EVER TOLD"—every Sunday—ABC Radio Network—THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

CCJ At Your Service

Continued from Page 14

lined, brakes of the other axle must be ground to remove the glaze.

It has been found necessary to true the brake drum when the glaze is removed. If each brake block was measured, it would be found that it varies in thickness. Manufacturers have a plus or minus tolerance to grind the lining. It is possible to have two blocks on the same shoe with a difference in their thickness, for this reason, we recommend grinding the blocks. This brake block truing machine, grinds the blocks to the curvature of the drum. It is essential that the lining be ground to the same diameter as the drum, so that they start with practically 100 per cent bearing area.

Motor Carrier Fire Accidents—1951

THERE were a total of 669 fire accidents reported to ICC during the calendar year 1951—a substantial increase over the 591 accidents reported the previous year. While the fire accidents constituted only 2.1 per cent of the total number of accidents reported during this period, they were responsible for 9.9 per cent of the fatalities, 2.7 per cent of the injuries and 14.2 per cent of the property damage.

Fire accidents resulted in the total loss of 473 vehicles in 1951. Major causes of the fires were collisions, upsets and ditchings—68.2 per cent; and mechanical defects—20.5 per cent. Here is a detailed breakdown of that 20.3 per cent, showing both passenger carrying and property carrying vehicles and the specific cause of the mechanical failure.

Mechanical Causes of Fires

	Pass.-carrying Vehicles		Prop.-carrying Vehicles		Total	
	Number of Acc.	%	Number of Acc.	%	Number of Acc.	%
Hot Tire	3	12.0	36	5.6	39	5.8
Bad Wiring	2	8.0	28	4.4	30	4.5
Carburetor, Pump, etc. (Leaking on Engine)			11	1.7	11	1.7
Tanks or Lines (Leaking on Exhaust)	1	4.0	9	1.4	10	1.5
Ruptured Fuel Tank			6	.9	6	.9
Exhaust System	1	4.0	7	1.1	8	1.2
Backfire—Carburetor			6	.9	6	.9
Backfire—Exhaust			2	.3	2	.3
Hot Parking Brake	2	8.0	4	.6	6	.9
Hot Service Brake			4	.6	4	.6
Miscellaneous			4	.6	4	.6
Cargo Heater			9	1.4	9	1.3
Refrigerator Unit			2	.3	2	.3
Sub-total	9	36.0	128	19.8	137	20.5

Not only must parts be properly inspected and designed, says the report but they must be properly located. Exhausts and batteries too close to fuel tanks are likely to cause trouble. An inside the frame location for fuel tanks, but not inside the cab, would be highly desirable. Space limitations, however, severely restrict location no matter how desirable. Designers of trucks and tractors should note, however, the good record for bus fuel tanks even though such tanks are customarily not as heavy as side-mounted tanks on trucks and tractors. Buses achieve their relatively good record in this field through the protection afforded by mounting in protected locations.

Avoid breakdowns with the help of Socony-Vacuum's simplified P. M. System . . . it's the talk of the industry!

SOCONY-VACUUM

Now – thanks to Socony-Vacuum's new Preventive Maintenance System – you can practically eliminate breakdowns due to improper lubrication maintenance!

You work with only three things – work sheet, record folder, control blackboard. We supply work sheets and record folders – show you how to set up the entire system. There's minimum paper work – no confusion. *Each unit is always under control.*

This system also includes analysis of your fleet conditions, help in setting up lubrication schedules and inspection periods, lubrication engineering service when necessary.

Use this exclusive P.M. system – and our top-quality oils and greases – to help keep your fleet rolling!

CORRECT LUBRICATION FOR FLEET OPERATORS

THE FLYING RED HORSE COMPANIES: SOCONY-VACUUM OIL CO., INC., MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

DATES and DOINGS

(For calendar of Fleet Training Courses see page 153)

MARCH

22-23—Indiana Motor Truck Assn., Spring Meeting, Purdue University, Lafayette, Ind.
23-25—American Transit Assn., Region III Conference, Hotel Statler, Detroit, Mich.
25—New Jersey Motor Truck Assn., Annual Dinner, Essex House, Newark, N. J.
26-27—Wyoming Trucking Assn., Annual Convention, Irma Hotel, Cody, Wyo.
27—Arizona Motor Transport Assn., Annual Convention, Hotel Westward Ho, Phoenix, Ariz.
27-29—National Truck Leasing System, Spring Executive Conference, Greenbrier, White Sulphur Springs, West Va.

APRIL

1-3—Irregular Route Common Carrier Conference, American Trucking Assns., Annual Convention, Majestic Hotel, Hot Springs, Ark.
2-4—Heavy and Specialized Carriers Section, Local Cartage National Conference, General Meeting, Hotel Muehlback, Kansas City, Kan.
5-7—American Society of Lubrication Engineers, Annual Meeting, Netherland-Plaza Hotel, Cincinnati, Ohio.
5-7—Western Highway Institute, Convention, El Mirador Hotel, Palm Springs, Cal.
5-9—Greater New York Safety Council, Commercial Vehicle Section, Annual Safety Convention and Exposition, Hotel Statler, New York, N. Y.
7-10—Independent Movers and Warehousemens Assn., Chase Hotel, St. Louis, Mo.
8-11—Midwest Automotive Trade Show, Kiel Auditorium, St. Louis, Mo.
11-13—Customer Relations Council, American Trucking Assns., Spring Meeting, Palmer House, Chicago, Ill.
20-21—Middlewest Shipper-Motor Carrier Conference, General Meeting, President Hotel, Kansas City, Mo.
20-23—American Gas. Assn. and Edison Electric Institute Motor Vehicle Committees, Spring Conference, Mt. Royal Hotel, Montreal, Canada.
22—Maine Truck Owners Assn., Annual Meeting, Hotel Lafayette, Portland, Me.
27-30—American Transit Assn., Region I and II Conference, Hotel New Yorker, New York, N. Y.
27-30—Tri-State Regional Automotive Show, Pittsburgh, Pa.
29-30—Alabama Trucking Assn., Annual Meeting, Hotel Admiral Semmes, Mobile.
29-May 1—Colorado Motor Carriers Assn., Annual Meeting, Cosmopolitan Hotel, Denver, Col.

MAY

4-6—National Highway Users Conference, Highway Transportation Congress, Mayflower Hotel, Washington, D. C.
4-7—American Welding Society, Spring Technical Meeting, Hotel Statler, Buffalo, N. Y.
16-18—Maryland Motor Truck Assn., Annual Convention, Lord Baltimore Hotel, Baltimore, Md.
18-20—American Transit Assn., Region V Conference, Hotel Leamington, Minneapolis, Minn.
20-23—New England Regional Automotive Show, Mechanics Bldg., Boston, Mass.
24-26—American Transit Assn., Region VII Conference, Washington Hotel, Seattle, Wash.
24-26—Automotive Engine Rebuilders Assn., Annual Convention, Statler Hotel, Buffalo, N. Y.
24-27—American Trucking Assn., Terminal Operations Council, Annual Meeting, St. Louis, Mo.

OCTOBER

25-29—American Trucking Assns., Annual Convention, Waldorf-Astoria Hotel, New York, N. Y.

Exclusive Eaton Features add up to Longer Axle Life, Rugged Dependability, Minimum Shop Time, Lower Maintenance Cost

More than two million Eaton Axles in trucks today. For complete information, see your truck dealer.

Eaton's planetary gearing distributes pressure and wear over a number of small gears, resulting in lower unit stress. Forced-flow oiling system provides positive lubrication to all moving axle parts at slowest vehicle speeds. Extra heavy construction eliminates the possibility of distortion or misalignment under full loads. Practical, down-to-earth design makes maintenance quick, easy, economical. Simple shifting makes it easy for drivers to use all available gear ratios. The right ratio for every road and load condition; gives extra maneuverability, positive control at all times. The result of these Eaton features is long, trouble-free axle life, greatest possible vehicle utility at lowest possible cost.

EATON
2-Speed Truck
AXLES

Axle Division
EATON MANUFACTURING COMPANY
CLEVELAND, OHIO

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

Laugh it off!

Tank Truck Driver: "Why do you always flirt so much with that little blonde waitress at Willie's Diner?"

Line Haul Driver: "Man, I'm playing for big steaks."

CCJ

Domestic Relations Judge: "Do you mean to say that you threw your wife out of the second story window through forgetfulness?"

Truck Mechanic: "Yes, sir. We used to live on the ground floor and I plumb forgot we had moved."

CCJ

EPITAPH

HERE RESTS LEADFOOT PETE
BENEATH THE SOD AND DEW.
HE HAD THE NERVE
TO HIT A CURVE
"UNLATCHED" AT 82.

CCJ

Road Truck Driver: "Doc, I've got an uncomfortable feeling in my stomach."

Company Physician: "Could it be something you've eaten? What did you have for dinner last nite?"

Road Truck Driver: "I stopped in that Diner up on Route 77 and had an order of raw oysters."

Company Physician: "Are you sure they were fresh oysters?"

Road Truck Driver: "Fresh? How should I know?"

Company Physician: "Well, couldn't you tell when you opened the shells?"

Road Truck Driver: "Cripes, man, are you supposed to open them?"

CCJ

Steno Sue: "Don't you think Bill dresses nattily?"

Steno Lou: "Natilie who?"

CCJ

Traffic Rate Clerk: "That new gal in the Interline Department has more curves than a big league pitcher."

Billing Clerk: "I hear nobody can get to first base with her, either."

CCJ

IT'S REALLY GONNA BE TOUGH SLEDDIN' TONIGHT. NO SNOW!

Shop Foreman's Wife (looking out the window): "Sam, here comes company just when we are going to have dinner!"

Shop Foreman: "Quick, everybody run out on the front porch with a toothpick in your mouth!"

CCJ

The warehouse foreman came in one morning complaining of a violent headache. When his staff gathered around for their usual A M briefing, there were many expressions of sympathy. One handsome young city delivery driver volunteered:

"You know, sir, I had a terrific headache the other day. When I came home and told the wife, she took my head in her lap, gave me a long, sweet kiss, and believe it or not, I forgot all about that headache."

The warehouse foreman reached for his hat. "Well, I've tried everything else. Is your wife at home now?"

CCJ

First Diner Waitress: "What's the difference between mashed potatoes and pea soup?"

Second Diner Waitress: "Anybody can mash potatoes."

"Cici Jay"

"My job is getting me. I have three bosses sharing me!"

City Truck Dispatcher: "Mabel, if you don't marry me I will certainly blow my brains out."

Sweet Patootie: "I wish you would. It would be such a great joke on father. He thinks you haven't any."

CCJ

Safety Sadie: "They tell me that our new Traffic Rate Clerk makes people happy wherever he goes."

Catty Cora: "You mean 'whenever!'"

CCJ

FAST TRUCK, POOR BRAKE,
LAZY COW, BEEFSTEAK.

CCJ

When the Fleet Maintenance Superintendent's daughter, Clarissa Belle, became 29 without any prospects of getting married, her mama talked her into inserting the following ad in a matrimonial paper: "Cute and cuddlesome young temptress with sizeable bank account seeks correspondence with devil-may-care gentleman who wants to go places fast."

Finally, mother asked: "Well? Any answers?"

"Just one," sighed Clarissa Belle.

"Who was it from?" demanded Mama.

"I do not wish to reveal his identity," said the daughter.

"But this was my own pet brain-child," shouted Mama, "and I insist upon knowing."

"All right," replied the reluctant Clarissa Belle, "It was from Papa."

CCJ

Catty Cora: "You know, dear, Homer doesn't seem to be as well dressed as he was when he married you."

Safety Sadie: "I don't see why not. It's the same suit."

CCJ

Safety Sadie: "Cora, I hear you went out with that handsome young middleweight fighter. How was your date?"

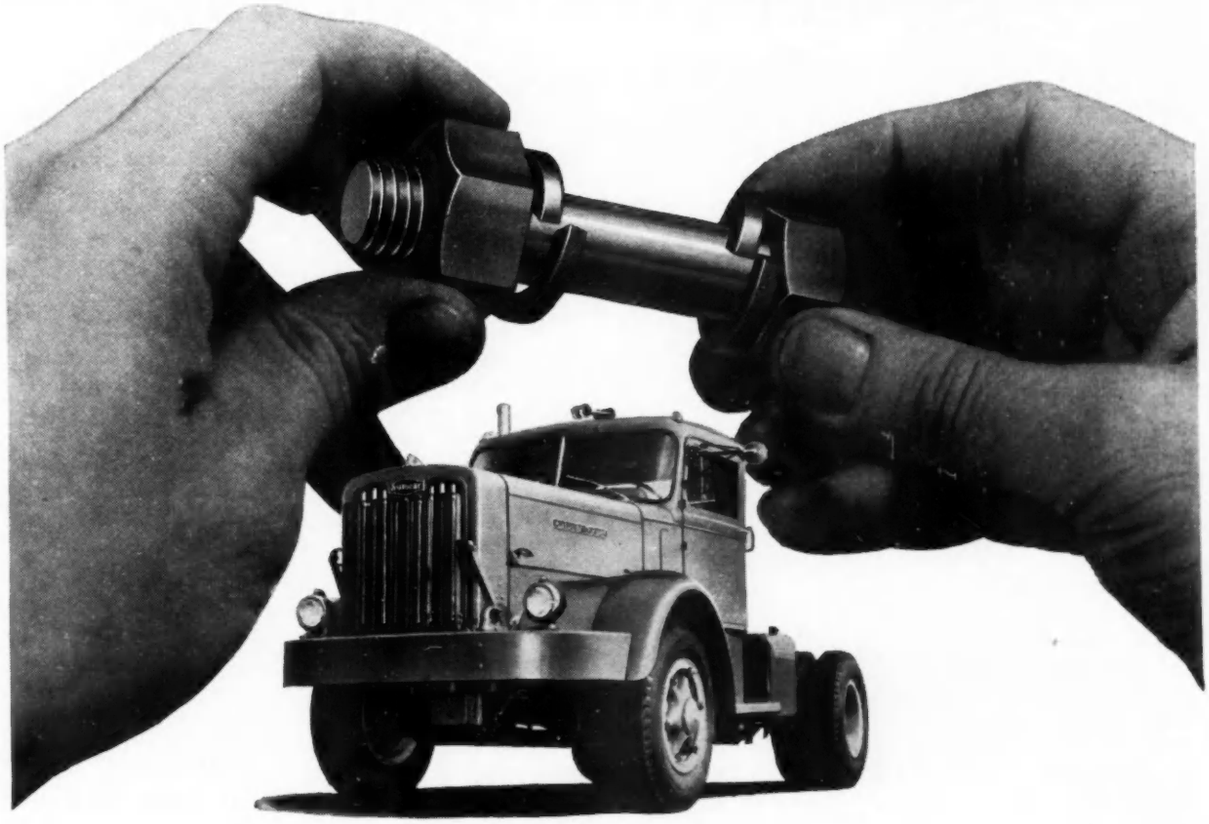
Catty Cora: "It turned into quite a hassle. Every time I hit him for being too fresh, he fell into a clinch."

CCJ

REMEMBER—ONE FOOT ON THE BRAKE IS WORTH TWO IN THE GRAVE.

Resume Work

35 YEARS AGO AUTOCAR SWITCHED OVER TO NUT & BOLT CONSTRUCTION



During a transcontinental test run way back in 1920, a spring bracket broke and had to be removed, brazed and remounted. Due to its location, it took a whole day to chisel through the rivets that held the bracket. Right then and there Autocar switched over to nuts and bolts. It was plain that rivets were not right for a quality product like Autocar. And besides, bolts permit the use of higher strength material than rivets. They're heat treated and fit the holes exactly. They're installed with heat-treated tension lock washers under both bolt head and nut for a permanent, tight fit. They make maintenance quick and easy because any part, even the frame rail, can be removed and replaced without special tools.

When you buy an Autocar, you get a sturdy, quality-built truck or tractor that stays in tip-top operating condition for years and years of dependable service. Fill in the coupon for more information.

AUTOCAR TRUCKS

Autocar Division of The White Motor Company
Ardmore, Pa.

Export: Drexel Building, Philadelphia 6, Pa., U.S.A.
Factory Branches and Distributors from Coast to Coast
in the United States and Canada

AUTOCAR DIVISION OF THE WHITE MOTOR COMPANY
Ardmore, Pa.

How can Autocars improve my hauling operation?

Name_____

Firm Name_____

Address_____

Type of operation_____

No. of trucks in fleet_____

3C

CCJ NEWS REPORTS

WASHINGTON RUNAROUND

by KARL RANNELLS Washington Correspondent

Economy . . . Leveling Off

White House believes that economic declines which showed up in late 1953 are leveling off. President Eisenhower is counting on enactment of a substantial portion of his legislative program to strengthen business confidence. The Administration makes plain it won't be stampeded at early cries of depression—but won't hesitate to move in with credit expansion, more tax cuts, bigger public works programs, if decline fails to improve by summer.

Excise Tax Relief . . . Not Much

Some additional tax relief may be in the cards for fleets and other corporations but not in large chunks. Last month, Congress seemed determined to reduce high excise tax rates to a 10 per cent level. In this event, the thinking was that in order to get this past the White House, Congress would probably be forced to retain the present 8 per cent excise rate on motor vehicles and parts, and broaden the whole excise base as well.

Gas Tax . . . Likely to Stay

It also seemed likely last month that the 2-cent federal tax on gasoline and diesel fuel would be retained. A major reason is the strong support in back of proposals to increase federal aid to highways, as typified in the McGregor bill. This would increase federal aid from the $575 million level (allotted for next year beginning July 1) closer to $900 million, with $200 million going to the interstate system. Increased aid would almost automatically cause pegging of fuel tax at 2 cents.

Manion . . . Resignation Requested

Also complicating the issue was the forced resignation of Clarence E. Manion from his position as chairman of the President's Intergovernmental Relations Commission. The action leaves in doubt the status of the report from the Commission's Committee on Federal Aid to highways, due the first of this month. Some of the questions under consideration by the committee, headed by PAR Chairman Clem D. Johnson, include; should the federal gas tax be dropped, should it be linked to federal aid, and other state-federal highway use and construction problems.

Eisenhower . . . Boosts Toll Roads

Bureau of Public Roads remains neutral on toll highways. But the White House believes the states are overlooking a good bet, that more toll roads is the way to partly solve their highway troubles "without straining their budgets." President Eisenhower thinks that present toll mileage has only scratched the surface. He is in favor of a federal policy which would "encourage" states to make economic and engineering studies of toll road proposals by providing federal grants for the purpose.

Truck Mail Routes . . . Expansion Asked

Post Office Department is requesting an increase of $3.1 million for operating its short-haul truck mail service during fiscal year beginning July 1. Part of the additional money requested would go for maintenance and operation of the 103 new T-routes which have or will have been established during the current fiscal year ending June 30. Most of the remainder would go for the establishment of 53 new T-routes during the 12 months beginning next July 1.

Government Truck Purchases . . . Reduced

Government expenditures for trucks during the next 15 months will be trimmed sharply. Defense Department, which holds title to 112,000 trucks, expects to save a substantial sum by reduced spending for new vehicles, warehousing, and shipping generally. General Services Arministration figures on holding to about 12,000 units its replacement buying.

ICC Manpower . . . Tight

The ICC may have to get along for another year with its present manpower level. White House budget proposals ask about $11,500,000 for the agency, an increase of $200,000 above the current year but not enough to permit a personnel increase.

Trucks Haul More . . . Explosives

Motor transport of explosives is on the increase, the ICC says in its annual report pointing up its need for more personnel for safety work. Not counting transport for the armed services, about 60 per cent of all industrial explosives must be handled by truck some time between factory and destination.

NEW Tandem-Axle Trailer Assembly

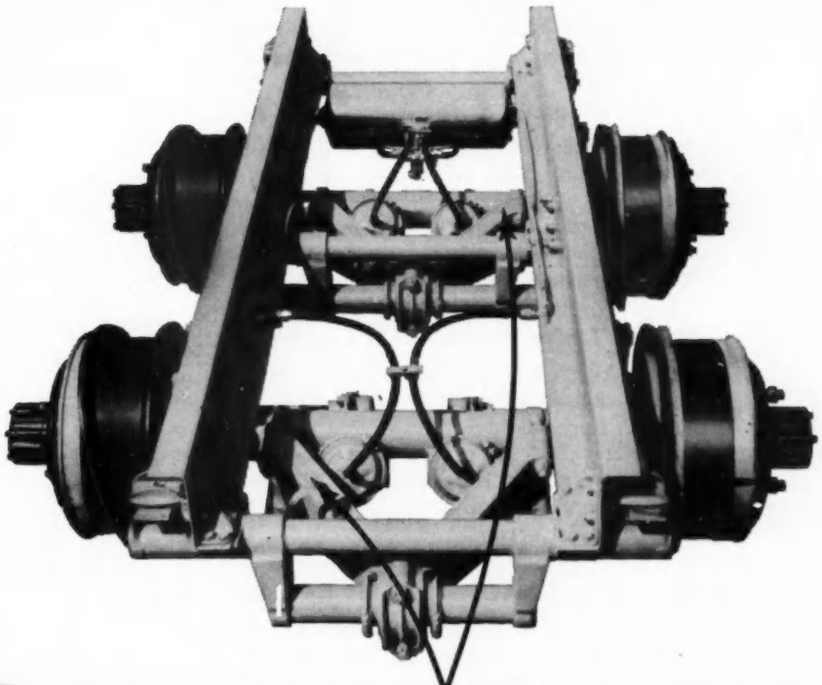
SAVES WEIGHT WITHOUT SACRIFICING RIDING QUALITIES or DURABILITY

Proven Design Lightened with Aluminum Castings

Now you can get *Trucktor's* famous safe, easy ride from a new, light weight tandem! Still *no axle hopping* . . . still *built to last* the life of the tank . . . but *weight cut* thru strategic use of tough, heat-treated aluminum castings.

Trucktor assemblies of this design—proven by 26 years of use—make up a large portion of the trailer tandems operated by the major oil companies.

Get this *proven ability—now at lighter weight*. You will profit thru higher payloads . . . lighter tanks . . . fewer tank leaks . . . longer service from tanks and tandems!



Chain-and-Sprocket Load Divider provides maximum flexibility going over bumps, holes . . . increases service life.

Rubber-mounted Yokes tow the axles . . . keep wheels aligned and **on the ground** . . . absorb **all** brake reaction.

Full-floating Springs rubber-mounted at axle, provide easy ride . . . carry load **only** . . . take **no** brake reaction.

Trucktor
TANDEM-AXLE TRAILER ASSEMBLIES

Specify Trucktor when buying Tanks. For details, write to

THE TRUCKTOR CORPORATION

Route 22, Mountainside, N. J.

Trailing Axles for 6-Wheeler Conversions • Single and Tandem-Axle Trailer Assemblies with Steel Springs or General Air Springs.

CCJ NEWS REPORTS

DETROIT DISPATCH

by LEN WESTRATE Detroit News Editor

BRP Brake Report . . . Watch for Action

It now appears likely that the long-awaited Bureau of Public Roads brake performance report may be out very soon. Representatives of the trucking industry, truck manufacturers and other interested groups reportedly have reviewed the study. It also is understood that the report has been presented to the National Uniform Traffic Code Committee, which has been asked to name a sub-committee to review the recommendations for possible adoption by that body. Many states follow the Uniform Code committee recommendations in setting up motor vehicle regulations.

Safety Specs . . . for Diesel Fuel Tanks

We hear that ICC is planning to establish safety specifications for fuel tanks used on diesel trucks. Remembering the long-drawn-out negotiations over gas tank specifications a year or so ago, truck manufacturers hope that standards for the diesel jobs will not present such a difficult problem.

Truck Trailer Brake Tests . . . Planned

The truck-trailer brake coordination committee soon will start extensive brake tests on tractor trailer combinations. The committee, consisting of representatives of trailer and truck builders, will determine effectiveness of some of the changes already suggested, also seek other improvements toward a fully integrated brake system for combinations.

Muffler Noise Standard . . . for New Vehicles

Representatives of motor truck manufacturers and the trucking industry soon will announce a truck muffler noise standard which is to be applied only to new vehicles. Details are being worked out and are expected to provide for testing equipment which will enable truck and muffler manufacturers to determine whether their muffler systems fall within the tolerances set by the standard.

New Trailers . . . Have Advanced Design

The 476 special trailer units ordered by PIE may have a profound effect on the trailer industry. They are to be built to PIE specifications by Fruehauf, Brown and Strick and represent most advanced thinking in trailer design, incorporating features operators have wanted for a long time. All are closed vans, including 106 reefers, with air suspension system and adjustable bogies. Cubage is very high, and use of 9.00 x 20 instead of 10:00 x 22 tires permits lower floor height. For construction details see pages 90 and 124 this issue.

Vertical Exhausts . . . Up Again

The old bogey about requiring all trucks and buses to have vertical exhaust stacks has bobbed up again in a couple of states. Truck manufacturers take a dim view of such proposed legislation in view of space limitations for mufflers, interference from saddle tanks, and noise and vibration effect on occupants of upper floors of buildings along narrow streets. Trucking interests are preparing data to oppose the vertical stack recommendation.

Exhaust Purifyer . . . Under Test

Another experimental catalyst unit for purifying automotive exhaust gases is under test by a Florida company. The device being tested by Industrial Research, Inc., at Miami employs a palladium alloy catalyst in the exhaust system and is designed to convert carbon monoxide into carbon dioxide and to oxidize hydrocarbon vapors. Principal problem is preventing the catalyst itself from being fouled by exhaust gases. Tests are scheduled to be completed soon.

Lightweight Wheel . . . for Larger Trucks

GMC has adopted a lightweight wheel weighing about 13 lbs less than the conventional steel wheel for its larger truck line. It consists of a light alloy steel disk plus a light rim.

Canadian Trucks . . . Ask Regulation

Two Michigan congressmen are preparing legislation intended to make Canadian truckers conform to United States safety and public liability laws while using U.S. highways. Under current law such truckers are exempt from ICC safety rules if they start and terminate their trips in Canada. They also are not required to carry insurance, observe rules governing hours of driving time, or have agents to represent them if involved in an accident in this country.

Chevrolet Says . . . No Streamlined Fenders

Chevrolet has no plans to offer the special fiber glass reinforced plastic fenders it installed on several of its special trucks, taking exhibits around the country. The streamlined fenders cover the sanders, saddle tanks, and wheels. However, the units are handmade and costly and will not be put on the regular commercial line in either plastic or steel.

It's like adding two and two...

*Cylinders wear most at the TOP

*Chrome-plated rings retard wear

*Thus, TOP rings must be chrome-plated to retard cylinder wear

Solid chrome plating on top and bottom rings gives wear protection throughout entire area of ring travel. Rings pre-seated at factory, eliminating tedious break-in period. Alternate HiPressure spring for badly worn cylinders.

The old style top piston rings found in many so-called "chrome" piston ring sets fail to provide adequate protection against wear where *most* wear occurs...in the area of highest temperature, greatest pressure and poorest lubrication. But, in Perfect Circle's 2-in-1 Chrome Piston Ring Set, BOTH the top ring AND the oil ring rails are plated with thick, solid chrome to give thousands of EXTRA miles of sustained power and lasting oil economy.

To obtain the *full* benefit of chrome in any engine, new or old, install chrome at its best...Perfect Circle 2-in-1! The Perfect Circle Corporation, Hagerstown, Indiana, The Perfect Circle Co., Ltd., Toronto, Ontario.

Perfect Circle

2 in 1 chrome piston rings

The standard of comparison

CCJ NEWS REPORTS

MARCH ROUNDUP

by ERNIE FOREST Assistant Editor

Reciprocity . . . the Big Issue

Breakdown of reciprocity and increase in retaliatory taxation have developed into a national crisis, highlighted by Ohio's refusal to enter into reciprocal agreements on its axle-mile tax. A special American Trucking Association's committee is meeting now in Chicago to investigate the problem. Beginning on page 64 of this issue, a special report summarizes the situation.

Trucking Industry . . . TV and Radio Show

Pleasant Valley Productions, Washington, D. C., has announced that beginning March 21 it will produce, in cooperation with the trucking industry, the first of 52 consecutive, 15-minute television and radio shows featuring Raymond Graham Swing, internationally famous journalist and commentator on foreign affairs.

The program, "Listen America" is being produced for commercial transmission between 10 a.m. and midnight each Sunday on respective local stations. It will be sponsored locally by state associations or individual truck fleets. Opening and closing commercials will be localized with a brief description of trucking industry service in the middle of the program.

Freedom Tank . . . Travels by Truck

The trucking industry stepped-in to provide transportation for a four-state tour of the "Freedom Tank." This is the "tank," built of scrap iron, that was used by eight Czechs to break through the iron curtain.

The tour, organized by the respective state truck associations and The American Heritage Foundation, started the first of last month in New Jersey, toured Pennsylvania and Ohio, and, as of the first of this month, is on exhibit in the rotunda of the Ford Bldg., Detroit. It was noted that travel by truck resulted in more stops and more people being able to see this reminder of the value of freedom than would have been possible had the "tank" moved by rail.

Highway Safety . . . Needs Public Support

Announced purpose of the White House Conference on Highway Safety was "to develop nation-wide support, at the community level, for proven methods of improving street and highway safety." As the three-day program unfolded last month before an overflow crowd of representatives of government and business, this theme was expanded to show that—in many communities—safety technicians have demonstrated the ability to reduce accidents to a minimum *provided* they have public support. Where public opinion has turned against the programs, they have almost invariably ended in failure. Thus public support of traffic safety becomes a job for every American, and certainly one to which every fleetman can lend a hand.

Trucks on Turnpike . . . Subject of Survey

Plans were announced the middle of last month for a three-day, nightfall-to-dawn check on truck operations on the Pennsylvania Turnpike. No dates were given by the Pennsylvania Motor Truck Assn., organizer of the survey, in order to preserve normal traffic and driving conditions. PMTA's Cooperative Safety Patrol (described in CCJ, June, 1953, page 64) will have 30 members from seven states cooperating in the project. In addition to other driving habits under observation, truck speeds will be checked by radar equipment.

Railroad Case . . . Being Pushed

Pennsylvania Motor Truck Association's anti-trust suit against several eastern railroads came into court again for the first time since last September. The railroads were accused of "continued evasion tactics" in blocking the truckers' efforts to obtain pre-trial facts and evidence.

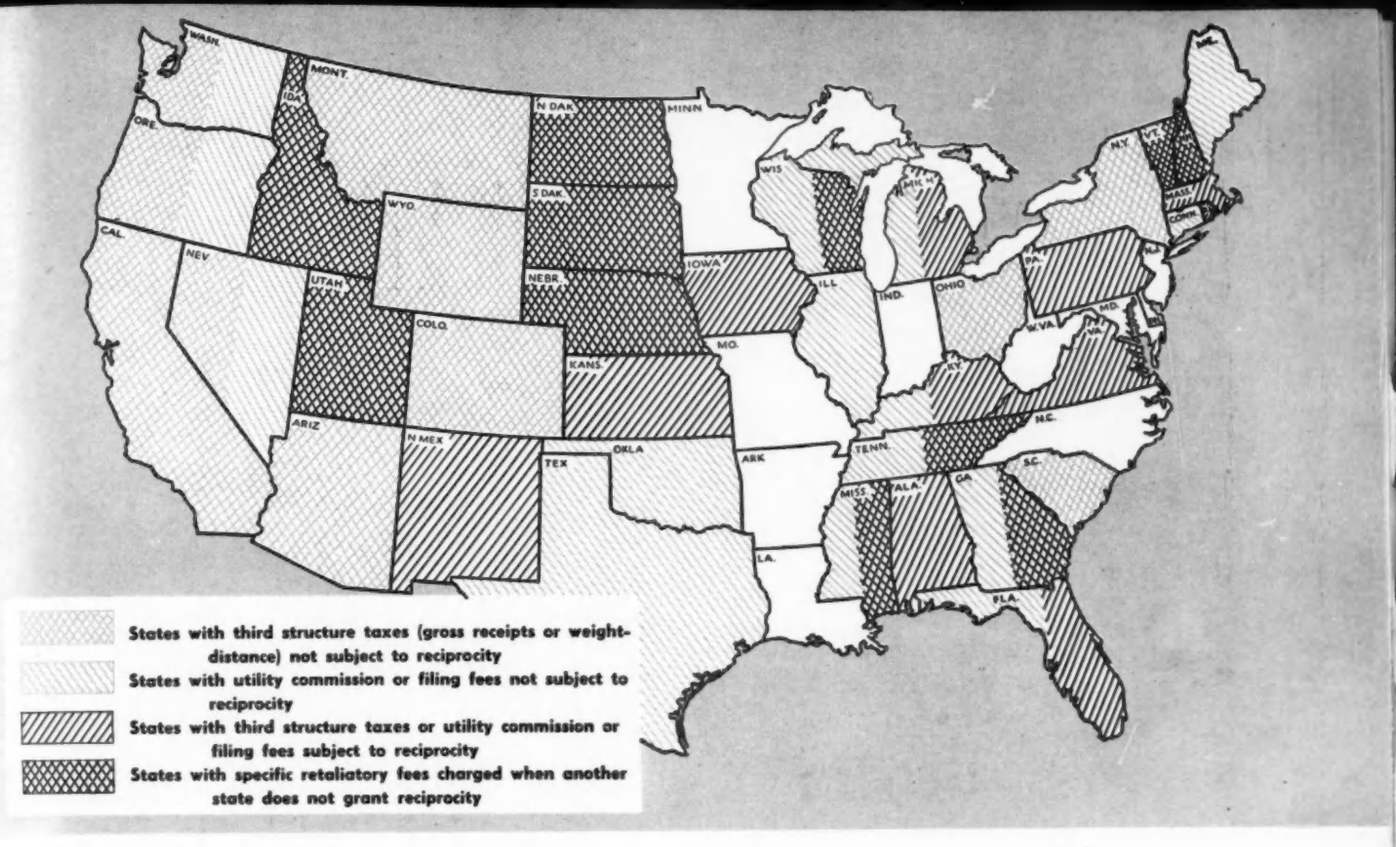
The railroads asked the court to rule that the truck users are not entitled to information about their activities opposing weight increase legislation, and that parts of the original complaint alleging slander and villification of the trucking industry and restraint of trade be eliminated. They also asked that the truck operators submit more detailed examples of damage suffered in consequence of the alleged anti-trust violations by the railroads.

Piggy-Back . . . Becomes "Whale Back"

Probably the most interesting development in a month that noted several moves concerning trailer-on-flatcar operation, was the announcement on Feb. 16 of a proposal to build four ships especially constructed to haul 240 trailers each between Wilmington, N. C., or Charleston, S. C., and New York City and Providence, R. I.

McLean Trucking Co., Winston-Salem, N. C., has AFL Teamsters Union endorsement of the plan, is applying to the Interstate Commerce Commission for permission to merge with S. C. Loveland Steamship Co. to put the operation into effect. Six round-trip sailings a week for each ship are planned. They are to be built by Bethlehem Steel Co. costing, together with loading facilities, about $50 million.

(TURN TO PAGE 158, PLEASE)



velop some concrete tax program or policy upon which our industry can stand united."

It will be followed immediately by a meeting of ATA's full executive committee.

At the special meeting of the exec utive committee of the National Gov ernors Conference, held late in January, it was voted to hold a special meeting of all 48 governors this spring to consider the breakdown of reciprocity and the increase in retaliatory taxation.

Latest report is that the governors have called a meeting in Washington, D. C., April 26-28, at which time it is presumed the problem of reciprocity and retaliation will be considered.

It is the hope of trucking industry leaders that a positive program of more uniform truck taxation and greater reciprocity will result from the meeting of the ATA special committee on reciprocity and be adopted by ATA's executive committee for presentation to the governors at their coming meeting.

National Crisis

THE NEED for this was emphasized by Carroll J. Rausch, president of Roadway Express, Akron, Ohio, and

By Ernest S. Forest

Assistant Editor
Commercial Car Journal

chairman of ATA's Committee of 100. At the recent meeting of the Board of Governors of ATA's Regular Common Carrier Conference, he urged the trucking industry to take the leadership in trying to find a fair and equitable basis for motor vehicle taxation that would raise the funds needed to build and maintain the highways the operators must have.

Said ATA Managing Director John V. Lawrence, "On the state level, probably the major problem facing truck operators is the possible breakdown of reciprocity."

Businessmen's concern was expressed in the 1954 forecast of the Transportation and Communication Department of the U. S. Chamber of Commerce as follows, "The outlook (for trucks) is generally good, but there is a continuing fear that reciprocity agreements will break down."

From Interstate Commerce Commissioner Knudson, speaking on statesmanship in solving transportation problems before the Traffic Club of Philadelphia, came this statement, "There is the vital matter of the states drawing closer together in reciprocal agreements relating to highway use."

Russell E. Garrett, chairman of ATA's Movers' Conference of America, noted in a recent speech in Springfield, Mass., that "One wonders whether taxation by the states of the instruments of interstate commerce . . . has not . . . advanced to the point where only the federal government can extricate the carriers from the present engulfment (of multiple state taxation)." He pointed out that it seems when one tax problem is solved, two more crop up.

The Private Truck Council of America passed a resolution noting the critical reciprocity situation at its recent annual meeting in Chicago, as did the Truck-Trailer Manufacturers Assn. (Feb. issue, page 108) at its annual meeting. The Private Truck Council's resolution reviews the burdens of third structure taxes and calls for their repeal. (A report of the discussion and the action taken begins on page 71, this issue.)

ATA'S Private Carrier Conference, in a recent bulletin, emphasized the impact of weight-distance taxes and the breakdown of reciprocity on private truck fleet operators. For-hire

(TURN TO PAGE 128, PLEASE)

SPECIAL BODY

Ups Payload

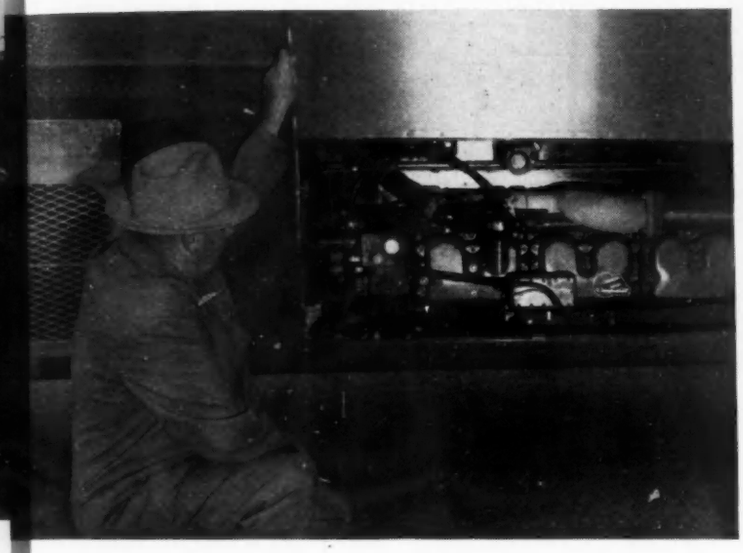
Crosley, converted to a miniature truck for advertising purposes, is numbered "0-½" representing "less than nothing"

A GAIN of 40 linear inches of floor space, with a resultant increased load capacity, improved weight distribution and ease of access for repair, is claimed by Mel Ivers of Ivers Transportation Co., Stockton, Cal., for his custom built engine-amidship truck used to haul stoves and appliances to various California markets.

Ivers operates 13 diesel powered trucks; 3 gasoline powered trucks; and 24 trailers, all 35 and 21-ft van type Trailmobiles. He also has three pick-up trucks and a station wagon "emergency road service" car.

Overall it is 59 ft, 11 in. Inside total length of this custom-built combination is 52 ft or 5 ft more than two 24-ft trailers

By Ken MacDonald



Above. Radio-equipped service car is used for emergencies. Service is given motorists too

Left. Cummins horizontal diesel engine is mounted amidships, permits longer load space

Photos courtesy of Watson and Meehan, Cummins Dealer

Space—and Profits

Ivers was in the furniture moving and storage business from 1937 to 1948 when he turned to heavy-duty trucking with a contract to haul for Rheem Mfg. Co., makers of Wedgewood Stoves and other home appliances. He also hauls steel from Pittsburgh mills to Los Angeles, as well as general commodities and food.

"My problem in hauling stoves and other appliances," Ivers explains, "was the age-old problem of cubic inside space. The more appliances I could safely load without damage, the greater my profit became."

Special Design

HE SOLVED his problem by taking a special design to the Crown Coach and Body Co. of Los Angeles who built for him a special truck utilizing a Cummins NHHB-600 pancake type 200 hp diesel engine.

In the conventional cab-over-engine truck the engine usually is placed directly over the center line of the front axle. By placing the horizontal Cummins diesel undsr the bed of the truck, the rear of the cab is almost directly over the center line.

This gives Ivers from 38 to 40 additional linear in. in his truck for cargo space. With this specially designed truck, plus a trailer, Ivers gets 52 linear ft of inside loading area, as against 47 ft in the normal pair of 24-ft vans. Ivers' loading space starts from the center of the front axle, whereas in the conventional models, the loading space starts about 39 or 40 in. back of the center line of the front axle.

The overall length of the Ivers special rig is 59 ft, 11 in., or one inch under the California state requirements. With this special rig Ivers can haul a full freight car load of Rheem water heaters in the truck with a trailer. He hauls 182 heaters, as against a maximum load in a conventional rig of from 108 to 115 heaters. He also can carry a full freight car load of electric clothes dryers and television sets.

Fee Saving

AN ADDITIONAL advantage, Ivers points out, is that it takes a tractor and two trailers with three license plates to equal his truck with only two license tags.

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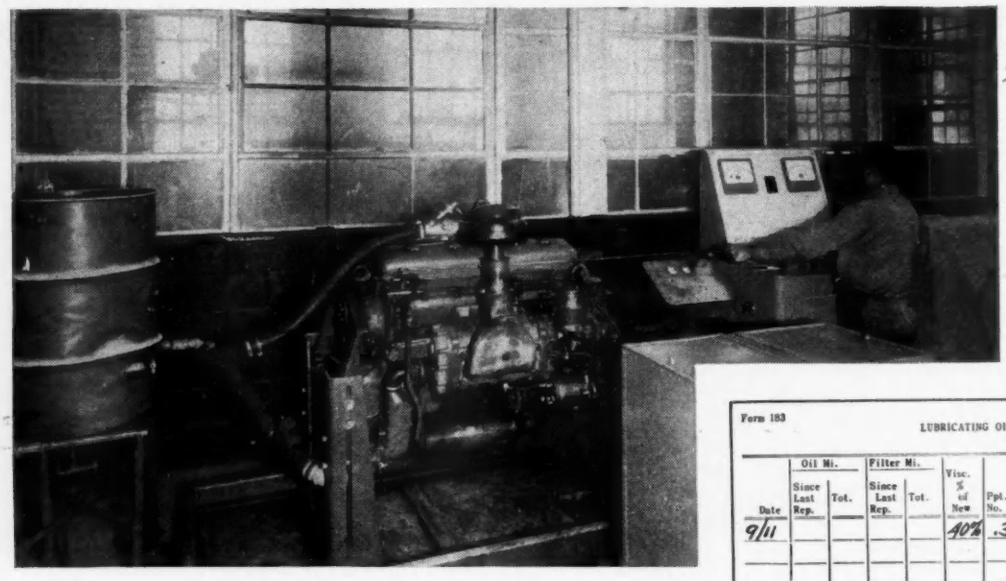


Rebuilt engines get 4-hour run-in on a dynamometer before going in service

Below. Oil is tested every 3000 miles. Analysis shows viscosity, precipitate, sediment, water, acid, metallic and other material content

Form 183 — LUBRICATING OIL CONTROL RECORD — Bus No. 249

Date	Oil Mi. Since Last Rep.	Oil Mi. Tot.	Filter Mi. Since Last Rep.	Filter Mi. Tot.	Visc. % of New	Ppt. No.	Water & Sedm. Sed. %	Water & Sedm. Wat. %	Water & Sedm. Metal %	Heat. Nos. F'ld & Passed	Mechanical Attention Indicated.
9/11					40%	.3	4.0	0	0	✓	

Precision Maintenance Program

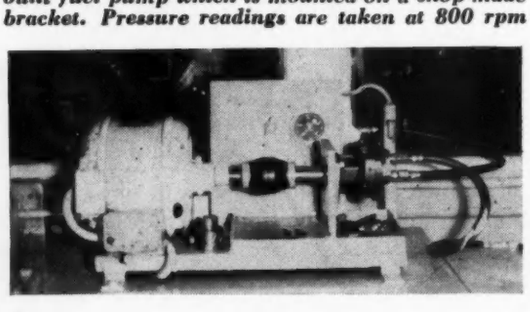
Pays Dividends

Diesel coaches average 4.9 miles per gal of f

By Torrens Smith

Louisville Transit Co., Louisville, Ky.

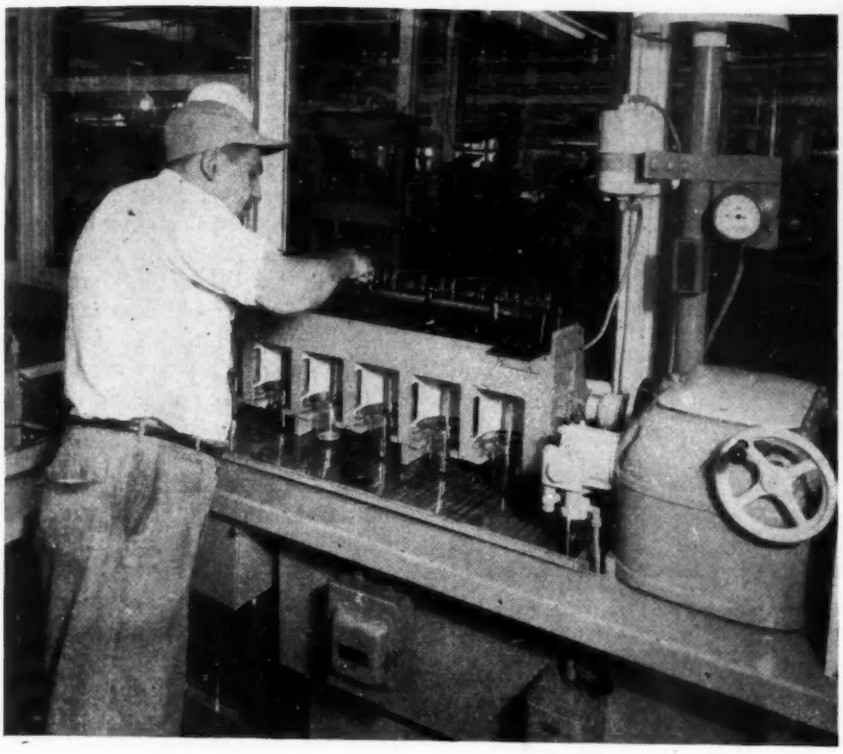
Fuel pump check stand electric motor drives rebuilt fuel pump which is mounted on a shop-made bracket. Pressure readings are taken at 800 rpm

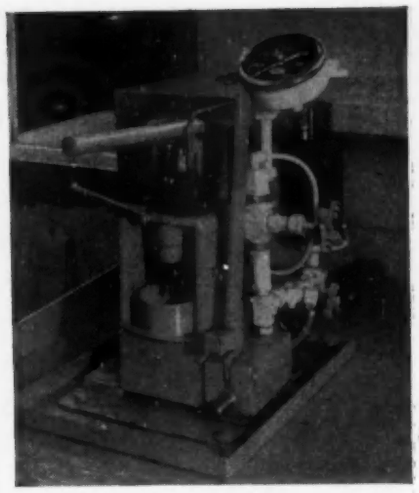


WE'VE waged a war on gas and oil hogs in our fleet of 409 gas and diesel buses, and we have some pretty imposing figures to prove that you can improve mileage with a minimum of time and trouble. Of the diesels on this property, 129 are showing oil mileages of better than 600 miles per gallon, 177 are showing better than 300 miles to the gallon, and the balance of 25 are due for a major or minor overhaul and will come up to a better figure than that after work. We are getting up to 1400 miles per gallon of oil on some of these coaches, and our program calls for bringing the others up to something approximating this figure during the next few months.

Here's our answer to raising oil consumption economy:

1. Use chrome rings and break in the engine carefully.
2. Maintain clean fuel and set high injector repair standards.
3. Service oil and air filters periodically.
4. Run periodic tests of oil to determine offenders quickly.
5. Keep a careful check on drivers and driving habits.





Above. Injector tester has been modified to make spray pattern and pop-off pressure testing easier, quicker

Left. Shop-designed injector balancer provides for precision matching of injectors from a standpoint of capacity

gal of fuel, 535 miles per gal of oil, thanks to good PM

These rules sound basic, but observance of this type routine has actually brought our oil mileage up from 421 miles per gallon in 1950 to an average of 535 miles per gallon. Now we set the 300-mile figure as a minimum standard and overhaul at this point.

While fuel mileage does not mean much to other properties in view of many factors affecting fuel economy, we point with pride to an average of 4.9 miles per gallon on these diesel buses which average 40 passenger seating capacity. This average has been upped by 0.3 miles per gallon over the past 4-year period. While this may seem inconsequential, if you consider a yearly mileage of 32,000 miles per coach, we are saving $86.40 per year per coach, or a total of $17,450 per year due to the five factors outlined above. Needless to say fuel mileage alone has more than offset added costs that may have been brought in with more careful maintenance and engine break in.

Dynamometer Break In

WE USE chrome rings on the top and the third ring groove as a move to improve ring and cylinder life. With this, however, goes the necessity for a careful engine break in, for chrome rings must seat before the vehicle goes into service. That is the secret to satisfactory service. As a result, every engine is given a complete break-in on an engine dynamometer under the following conditions:

10 min. at 1000 rpm for warm up
¾ hr. at 1500 rmp at 40% load
¾ hr. at 1800 rpm at 70% load
¾ hr. at 1900 rpm at 85% load
1¾ hr. at 2000 rpm at 100% load

Thus every engine gets a 4-hour run in under carefully controlled conditions. During this time a check is made for valve lash, injector timing, oil leakage, water leaks, exhaust system leaks and head loosening. We insist that an engine dynamometer is the only way you can perform this operation accurately.

Oil Condition Test

WE PULL an oil check with a Gerrin test kit every 3000 miles. A check is made of viscosity, precipitate, sediment, water, metal and acidity in a move to catch potential trouble before engine damage. When these results are compared against the oil and the filter mileage, we have a relatively accurate indication of the condition of the engine. In this way we can catch such things as injector wear, head and gasket failures, excessive dirt accumulation and cases of improper temperature operation. We are now installing a test kit so that each garage can make a quick check of oil viscosity each time the coach is in for service. This will serve as a practical guide to engine work and will save both time and replacement parts.

Injector Rebuilding

ONE of the most important considerations in economy of both fuel and oil is injector care. We are getting up to 200,000 miles on GMC injectors in some cases, due to careful overhaul practices and constant attention to the cleanliness of the fuel. The

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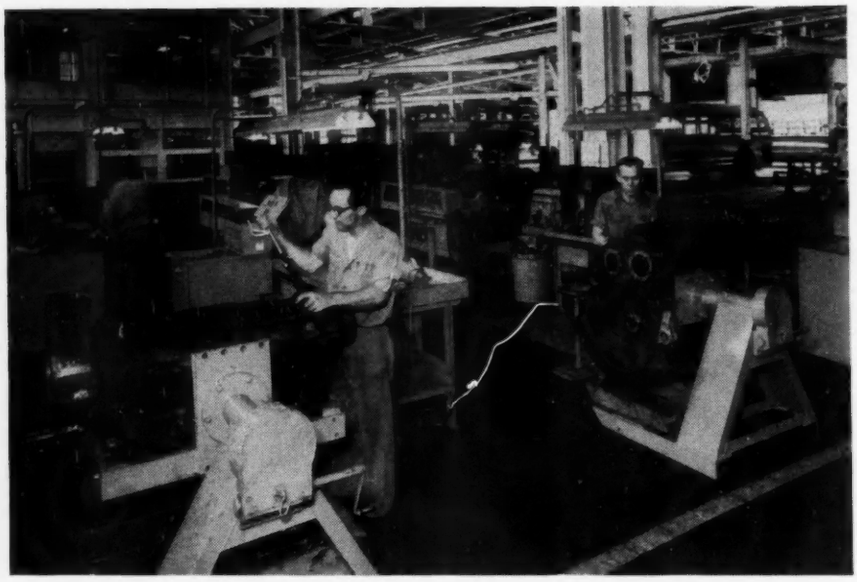


Cleanliness in every phase of engine work accounts in part for the excellent oil and fuel mileages obtained by Louisville Transit in their bus operations

Precision Maintenance Program . . .

Continued from Page 69

answers to this high mileage can be found in the special tools in the injector room.

One of the features of the injector room is an injector balance tester made up in the shop for accurately determining injector output and for matching units of similar capacity. On this machine we match up three capacity ratings of injectors and mark them accordingly, for use in matched sets. This has not only resulted in improved fuel mileage but also in smoother idling and reduced smoke.

Injectors marked with a red dot pump 60 to 63 cc per 1000 strokes. Those with a white dot pump 63 to 66 cc; and those marked with a blue dot pump 66 to 70 cc. Thus we hold specifications actually to higher standards than those imposed by the manufacturer and do not waste rebuilding time in order to balance them more accurately.

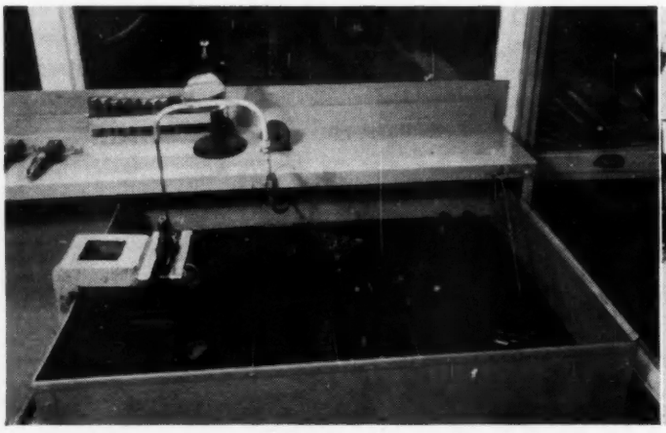
The balancing machine, as set up in the injector room, consists of a regular GMC head with rocker arm and injector seats, a cutaway block and a variable speed electric motor. Fuel is supplied through a regular fuel line assembly, and the operation is lubricated through a gravity feed system. A tachometer is connected to the drive and a revolution counter is installed in the system. An automatic shut-off disconnects the current when the plunger has operated 1000 strokes.

Six graduates are set under the lines leading from the injector nozzles and the fuel is measured accurately. In this way rebuilt injectors can be tested for capacity and matched for better performance.

The injector spray tester performs a function similar to that of units available from manufacturers. However, we redesigned this unit to our own specifications, making it simpler and accurate to use. Note the heavy frame for mounting of the injector, the modified handle for depressing the plunger, the spray pattern cup built into the unit and the pop off lever built into the lower base block. This unit has enabled us to rebuild and test injectors and hold them to rigid specifications prior to final test on the matching machine described above.

(TURN TO PAGE 114, PLEASE)

This shop-designed cleaning tank set-up in fleet's injector room provides for convenient rinsing of precision parts and a handy method of keeping them separated for repair



This air-cleaner cleaning machine is almost entirely automatic. Experience has shown that it does a better job than can be done by hand. Clean units are available as required

Manufacturer meets consumer in a ten-man panel. From left: Robson of Firestone, Wallace of Diamond T, Elder of Ford, Black of Trailmobile, Jeffry of Sun Oil, Cass of White, Dumrose of Pabst, Grinnel of Gaylord Container, Johnson of Bowman Dairy, Kimball of National Cylinder Gas, and Reiman of Pure Oil

PTC Meeting Raps Reciprocity Mess

Private Truck Council also condemns third structure taxes, hears about "piggy-back," discusses truck problems with manufacturers

THE Fifteenth Annual Meeting of the Private Truck Council of America, Inc., found approximately 500 members and industry representatives banded together in this two-day session for one common purpose—to improve the operating efficiency of the private carrier.

Toward this goal the program committee arranged for a battery of speakers covering some "hot" subjects of the day. The well-known "Workshop Forum" came through in high style, and the dinner session, as usual, highlighted the entertainment feature.

Here's what happened in Chicago last month:

Axle Mile Tax

MOST vital matter receiving attention was that of the axle-mile tax, recently imposed in the State of Ohio. Bud Gorman called it "the crowbar used to wreck highway transportation reciprocity," and denounced it as an instrument which will erect tariff barriers between the states and will raise the cost of distribution of goods to the consumer. He pointed out in a press conference before the meeting, that a resolution already has been introduced in Congress, citing the dangers of such a breakdown and calling for an investigation with the possibility of federal intervention (See CCJ, Feb. page 62, and this issue, page 64.)

Ohio State Senator J. E. Simpson took up the issue later in the week to forecast that "destruction of countless small businesses" will result from levies such as recently have been applied in the form of this Ohio axle mile tax, on truck transportation. He contended that such taxes curtail shipping by truck "to 50,000 villages and 4000 cities with a population of some 11 million people who are dependent upon highway transportation exclusively."

Senator Simpson pointed out that trucks paid about 35 per cent of construction and maintenance costs in Ohio before the new tax was imposed, yet used only 12 to 15 per cent of the state's highways. He said that enforcement of archaic weight laws and traffic regulations against trucks, and the imposition of these third-structure taxes, are designed to force the construction of more turnpike for carriers.

The Council later resolved in unanimous vote to condemn this form of taxation as "seriously harmful to the national and public interest." Third structure taxes are unnecessary, unsound and destructive additions to motor fuel and license or

(TURN TO PAGE 117, PLEASE)

How to Get

More Miles from a

ECONOMICAL performance of diesel engines requires overhauls of injectors, pumps and superchargers at regular intervals. Most operators re-check these units within a couple thousand miles after their overhaul to make sure adjustments are holding. Regular overhaul periods are based on experience. These operators recognize that cylinder wash not only ruins cylinder walls and rings but also causes crankcase dilution that leads to early bearing and shaft failure.

Most authorities agree that cylinder wall and piston ring wear has little relationship to the hardness of sleeves and/or rings when engine operation includes the following factors.

1. Proper fuel
2. Cleanliness
3. Sufficiently high engine temperatures
4. Matched and mated component engine parts
5. Engine break-in prior to loading
6. Good lubrication

a DIESEL

By Don Smith of California
Manufacturers Representative

A diesel fuel system requires periodic overhaul—but it also requires careful analysis of the causes of early failures. Here's how to get better economy and longer life of parts

The first five items demand only brief consideration as follows:

Fuels with high sulphur and ash content are sufficiently corrosive and abrasive to cause rapid engine deterioration.

Dust, dirt and other foreign elements in either air stream or oil form abrasive materials no metal can resist. Several hours engine operation with excessive dust passing through the intake manifold causes the equivalent of thousands of miles of normal wear. The need for absolute cleanlinss in engines can be appreciated when it is recognized that some injector discharge passages are so tiny that while fuel can pass through them, water can not. A drop of water in these passages will actually cause tips to explode as pressures are built.

Controlled high combustion chamber temperatures are necessary to partially neutralize the most corrosive gases always to be found in internal combustion engines. Coolant temperatures below 150 degrees Fahrenheit are recognized as a cause of apparent rapid cylinder wall wear.

Engine parts must necessarily be properly mated in both materials and clearances for best results. For example, rings with extreme wall tension can cut through lubricating films and cause metal to metal contact with resulting rapid wear. Rings with insufficient tension, on the other hand, may fail to seat in properly.

Work engines can be quickly ruined by being loaded before rings are seated and clearances gained. Unseated rings allow blow-by which can over expand piston skirts and pins and cause seizures and/or scuffing and rapid wear.

Proper lubrication of all engine parts is recognized as a necessity for long engine life. Lubricating films between working parts virtually do away with metal to metal contact that causes wear. In recognition of this, most engine users insist on, and use the best lubricants obtainable. However, it is not unusual for drivers to buy sub-standard products while on the road and pocket the price differential.

Though proper lubrication is recognized as a necessity in engine operation, too little attention is paid to conditions which allow fuel to wash lubricating films from cylinder walls. Such "cylinder wash" that destroys lubrication is a major source of cylinder wall and piston ring wear in diesel engines. Complete engine failure can be accomplished in less than 5,000 miles. Faulty injectors, pumps, and superchargers usually do the damage.

Cylinder Wash

TO UNDERSTAND why diesel engines are especially susceptible to "cylinder wash," it is necessary to remember that no fuel can be burned in a true diesel engine until the piston has built up approximately a 500 lb pressure in the combustion chamber. If fuel is present in the combustion chamber prior to the time when the piston has traveled far enough to develop this compression, the fuel runs down the cylinder wall destroying lubrication and the piston ring travel that distance with metal to metal contact against the wall. This is a major cause of rapid wall and ring wear.

It is too often assumed the exhaust will belch black smoke if unburned fuel is causing cylinder wash. Actually, the opposite is true. If fuel has run down the walls prior to combustion, the remaining amount will cause the engine to run lean and limit its horsepower while the exhaust remains clean.

Superchargers must necessarily supply enough air to balance the amount of fuel being injected to accomplish

(TURN TO PAGE 106, PLEASE)

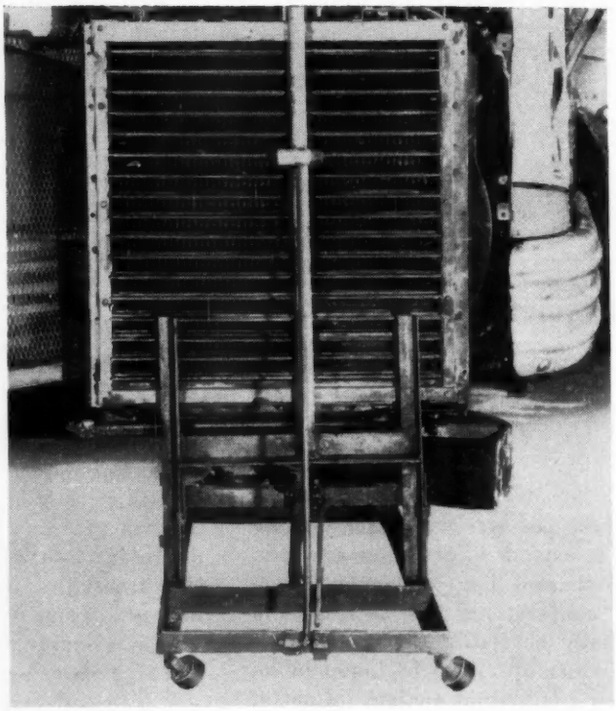
Shop Hints

Here are some swell time savers for fleet shops. Let us have your ideas for new tools or short cuts to service. We'll pay $10 and $25 for good ones.

$25

For Handling Bus Radiators

By Clifford P. Ballard, Foreman
Hudson Transit Lines Short Line System
Mahwah, N. J.



This dolly was made in our shop to remove radiator assemblies from GM coaches of all models. It allows one man to do the job in less time and more safely than it formerly took two men, plus the fact that it makes it possible to pull assemblies out to the steam room to be cleaned and checked before being re-installed.

Basically, the dolly frame is made from angle iron and mounted on four, small swivel wheels. A simple screw-jack raises or lowers a jig designed to hold the radiator securely. As shown, the pipe support, welded to the base of the jig, holds the radiator upright by using a chain that loops around a bracket on the opposite side of the radiator and hooks onto the pipe.

Screw Starter is Made

By J. W. McGill
Wright Truck Line
Stayton, Ore.

For holding screws when working in restricted places, this tool was designed in our shop to grip the screw at a right angle to the work. It is made from an old choke wire and cable. Pull the choke wire out and cut off the cable to about 4 in. Solder or braze a 1-in. length of 3/16-in. copper tubing to the end of the cable. File a notch or half-

Combination Tool Tray

By Seymour Steiner
1890 Bottling Co.
New York, N. Y.

With this combination tool tray and work stool, our mechanics find they can shift their position from one side of the truck to the other without having to make several subsequent trips for tools. Base of the handy

Tool Made from Timing

By Norman Coone
Nehls Chevrolet Co.
Marshall, Texas

When replacing a Chevrolet timing gear with the engine in the chassis, it is difficult to turn the crankshaft. This tool makes it easier. It is made from an old fiber timing gear. Remove all the fiber from around the hub. Take an old 1/2-in. drive socket that will fit inside the gear hub. Position the socket into the hub

Handy Platform Speeds

By Frank P. Coulomb
Inglewood, Cal.

This handy gadget will have use in the fleet shop for tempering, cooling or washing small parts. It is used with a 5-gal paint or grease pail. Cut out a plate to the inside diameter of the

Shop-Made Sleeve Used

By John C. Dorrenbacher
Socony Vacuum Oil Co.
Buffalo, N. Y.

For the past two years, we have been using a tool I made in our repair shop that has saved us considerable rear axle trouble by proper installation of the oil seal assembly. Cut off the top and bottom of a heavy duty oil filter cartridge. Press into each end of the resulting tube

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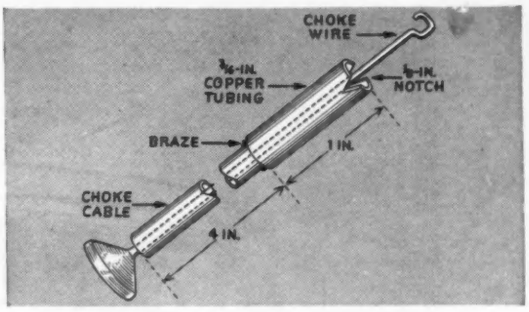

circle about ⅛ in. deep across the end of this tubing. Insert the choke wire back into the cable and cut it off about 1 in. beyond the end of the copper tubing. Then form a ⅛-in. diameter hook in the end. To use, put the screw through the hook and, by means of the knob, pull the wire back until the screw is gripped in the slot in the tubing.

l Tray and Seat Saves Time

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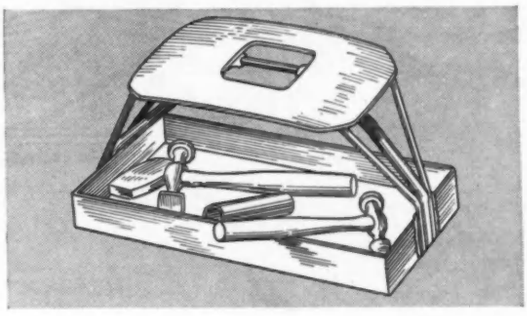

tool tray
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stool is a fairly strong metal tray. To this is welded the flattened end of a piece of pipe on each side. Additional rods welded on each side provide added support for the seat, which is cut from steel plate.

Timing Gear Turns Crankshafts

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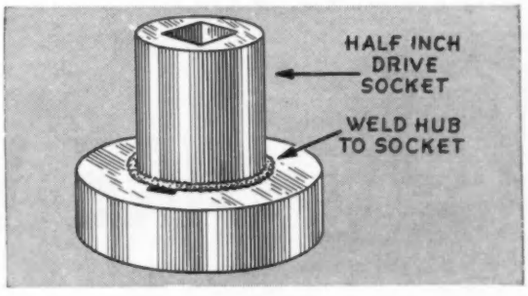

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as shown and braze around the edges. To use, slip it onto the crankshaft and turn it with any ½-in. drive handle until the keyway in the shaft points up. Then slip the tool over the camshaft, turning it until the keyway poins to the top brass retainer plate screw, and the shafts will then be in alignment.

Speeds Bucket Cleaning of Parts

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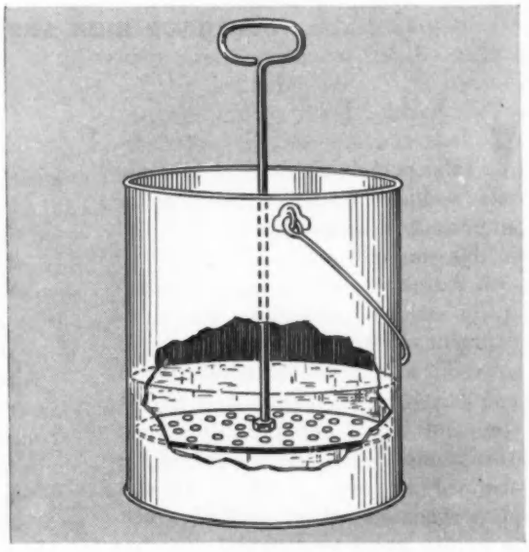

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pail and weld or bolt a handle to the center as shown, after drilling a number of holes in the plate. If this platform is placed in the bucket first, parts can be easily removed.

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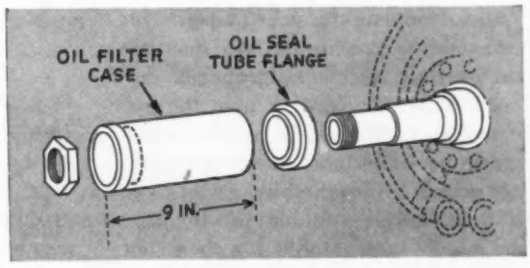

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an old axle tube oil seal flange to act as guides on the axle tube. Weld a 1½-in. diameter collar to one of the flanges to build the tube to an overall length of 9½ in. To use, place the oil seal assembly on the shaft first and then the sleeve, then thread on the axle lock nut and tighten.

ARE WE INSURED FOR MU

Insurance man says present coverage provides no incentive to drive safely, s

Fleetmen, rightly concerned with their direct insurance costs, often forget that the increasing number of automobile accidents has a two-way impact on their operation. It does make fleet operation more hazardous, and it does enter into basic insurance actuarial figures that are often reflected in fleet rates.

Adapted from a speech at a recent insurance meeting, this article blames today's standard automobile insurance policy as the principal cause of automobile accidents. This approach and the reasons for it have caused quite a stir in the insurance field.

It may not be the answer, but truck and bus fleetmen will be interested in the provisions of the standard automobile policy recommended by the author and his purposes in suggesting the changes, as well as in applying some of the author's ideas to their own insurance programs.—Ed.

THE principal cause of automobile accidents today is the type of automobile insurance now being sold in this country.

A statement of this kind so positively made is certainly a severe indictment of our insurance industry if proved. I shall try to point out to you why I think that this statement is true and how I think our program of automobile insurance should be changed in order to provide the proper climate which will do much to reduce accidents.

The record speaks for itself. In spite of any of the present plans for financial responsibility, no decrease in over-all accident frequency has been achieved. In each plan the one essential ingredient is missing—real incentive. The most effective way to get people to do anything is to make it financially profitable for them to do it and unprofitable for them not to. All of the present plans make the results of bad driving extremely costly to the insurance-buying public as a whole but do not make it unprofitable to the man who causes the accidents.

We require a plan that will make certain the victims of careless driving will be properly compensated according to the judgments rendered by our courts, and one that will place at least a portion of the cost where

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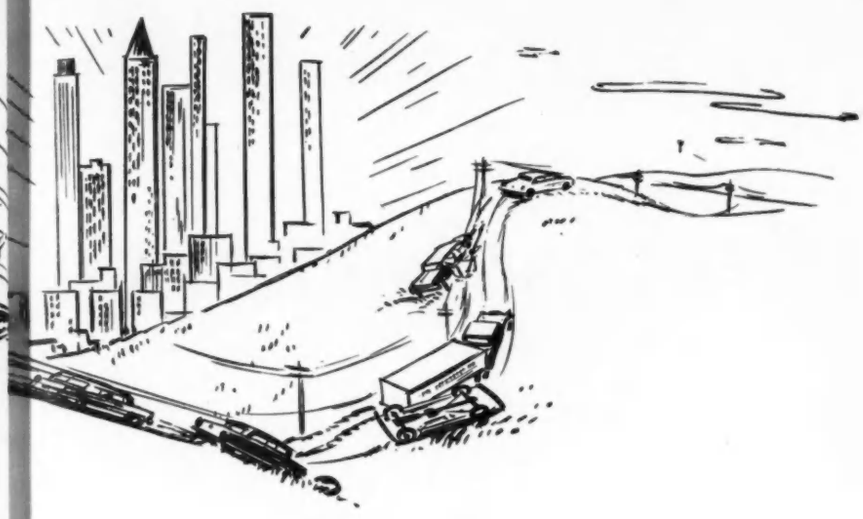

By Robert H. Oppenheimer
Oppenheimer Bros., Inc., Insurance Facilities
Kansas City, Mo.

OR MURDER ?

safely, suggests a new policy

it belongs, on the careless driver. Such a combination plan will reduce the accident rate of this country.

My recommended two-part solution is probably not the only solution that will do the job, but it will definitely align insurance with the public welfare. For simplicity, I am outlining the pertinent points of the plan without elaboration or discussion.

A New Standard Policy

FIRST, a standard automobile policy to be adopted by each of the 48 states containing the following provisions:

1. A single insuring clause covering bodily injury and property damage *with no limit*. This will provide adequate protection and enable the underwriting company to stabilize the excess insurance market as a satisfactory spread of risk will be available. An additional benefit which a no-limit policy would obtain is that of placing all defendants on an equal basis before the law in either a trial by jury or judge. No longer will the financial responsibility of the defendant have any bearing on the results or the size of the verdict.

2. A mandatory deductible clause in the amount of 10 per cent for each and every loss on bodily injury claims and $100 for each and every loss on property damage claims. The 10 per cent deductible applying to bodily injury claims shall be subject to a minimum deductible of $500 and a maximum deductible of $1000. Companies shall not be permitted to assume final responsibility for any part of the deductible clauses either directly or indirectly.

3. Compulsory insurance laws to be enacted but rates to be competitive. All persons in order to obtain a license will first be compelled to secure an insurance policy from a licensed carrier in the state in which he resides. However, the rates while filed with each of the state commissioners should be permitted to be made on a competitive basis, based on the loss and expense ratios of the individual carriers.

4. The law shall provide, and a clause to the effect inserted in each policy contract, that insofar as the claim of the third party is concerned it shall be the responsibility of the insurance company to pay the loss in full irrespective of the deductible clause. The company shall in turn be obligated to obtain from the assured reimbursement for the amount of the deductible paid. Should any assured fail to pay the deductibles to the company the company shall cancel the contract, the driver shall have a revocation of his license until such time as he has reimbursed the company plus interest of 6 per cent from the time of the claim. No company shall be compelled or permitted by the state to write insurance on a driver for whom a deductible payment is pending. No license shall be issued unless an insurance policy from a licensed company is in effect on the driver.

5. Policy should be issued in the name of the drivers and not on the automobile. Policies should be available to owners, who are not drivers of cars, for their protection as owners only but would not protect them as drivers. Rates for this latter type of contract would be considerably reduced.

Second, a percentage of the state tax now levied on automobile insur-

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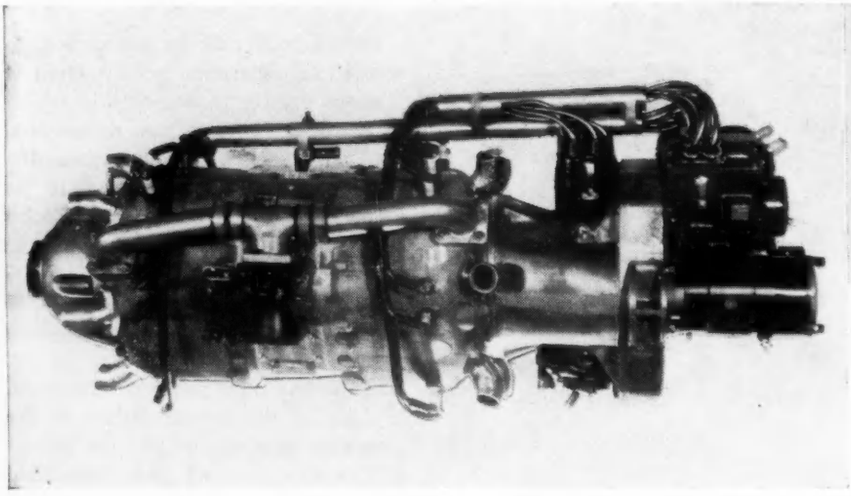
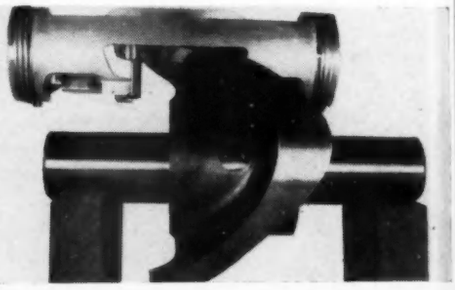
Truck Engines for Tomorrow —ar





This 12 cyl Herrmann cam engine, with 373 cu in. displacement and 210 hp at 1900 rpm, has no crankshaft, no separate cam shaft, no con rods. Wobble plate arrangement, above, replaces con rods in this free-piston design engine

While today's engines incorporate impressive gains, new designs undergoing tests

By Joseph Geschelin
Detroit Technical Editor
Commercial Car Journal

GASOLINE engines for passenger cars and trucks are making impressive gains in power, efficiency, and fuel economy what with the widening adoption of the modern high compression, overhead-valve type V-8's. In fact, the tangible gains are far greater than even the experts predicted some years ago.

At the same time other specialists are working behind the scenes on radical or unorthodox designs which in time may direct automotive prime movers into entirely different channels. It may be of interest to see what is going on in the laboratories, even though the results may not be apparent for a long time to come, if at all.

Perhaps the most dramatic thing is the entry of General Motors into the gas turbine field. Some years ago we expressed doubt that the gas turbine would be found on trucks—not to mention motor cars—within the time limits visualized by its proponents. The early timetable has come and gone. Nevertheless, the fact that General Motors Research has built some 370-hp gas turbines and has installed one in a GMC bus to gain road experience is the most encouraging sign on the horizon. This does not mean to say that gas turbines for motor vehicles are just around the corner. But the entry of GM Research will make things perk. Their work added to the pioneering work of Boeing, Continental Motors, Ford, and others should bring the matter to a head and should provide an answer sooner to the question whether the gas turbine is a good competitor for the dependable gasoline and diesel engines.

The last time production motor cars were fitted with a supercharger was on Graham-Paige cars around 1934. Just before the war there was considerable discussion about the possibilities of using engines of moderate output, say 75 to 100 hp, fitted with superchargers that would come in only at wide open throttle. However, nothing came of it. When the war was over, the shift was to the

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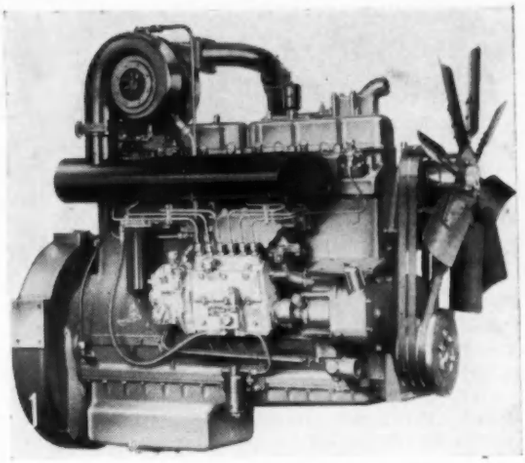

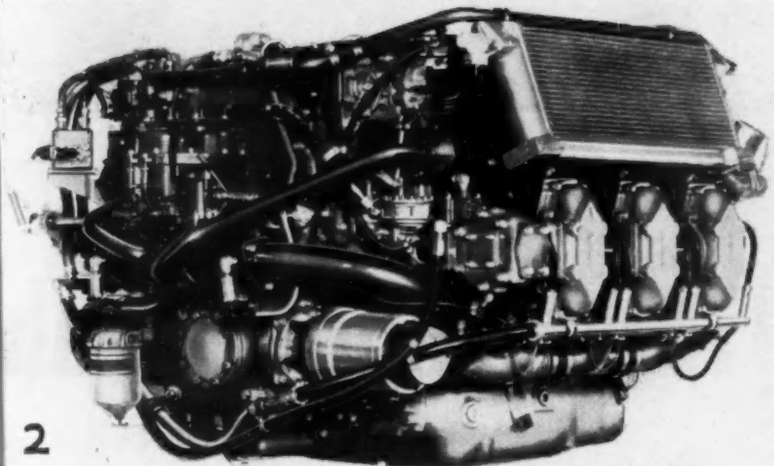

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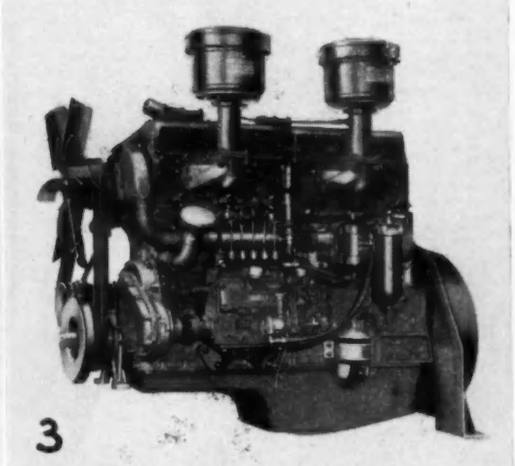

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promise still greater power and efficiency

high compression V-8's which are now pushing in excess of 200 hp, the current top being the Chrysler V-8, rated at 235 hp.

Now there is a supercharger on the 1954 Kaiser-Manhattan. The basic engine, rated 118 hp, when fitted with the McCulloch supercharger ,is boosted to 140 hp. The supercharger is so designed that it becomes effective only at wide open throttle, thus conserving fuel economy. The big advantage to Kaiser-Willys is that the gain in performance in low gear as well as at the top is obtained with the same basic engine. It means that production economies can be continued without the penalty of new tooling.

Whether or not anyone else will try the same route is questionable at this writing, since practically all motor car producers—with the exception of several independents—already are committed to the new V-8's. But you can't tell about these things.

Meanwhile, in the heavy-duty field, installations have been made of the turbocharger.

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Fig. 1. Supercharged, 779 cu. in., Waukesha diesel, Model No. 148 DKBS, has exhaust turbocharger. It develops 280 hp at 2100 rpm

Fig. 2. This is Continental's Red Seal Model No. SD 802. Its transportation version, Model No. SD 6802, has rating of 217 hp at 2200 rpm

Fig. 3. Model No. A 0895-4, a new Continental engine, develops 375 hp at 2800 rpm. Displacement is 895 cu in., compression ratio 5.5 to 1

Fig. 4. LeRoi Model No. TH 844 V-8 gasoline engine of 844 cu in. displacement and 6.7 to 1 compression ratio develops 290 hp at 2800 rpm

Fig. 1. Above. Five of the bottom-hoppered trains in the test fleet. Loads of 76,800 lb are carried daily on commercial hauling routes

Fig. 2. Below. Each vehicle has special instruments for recording data needed for comparison and evaluation of part or unit

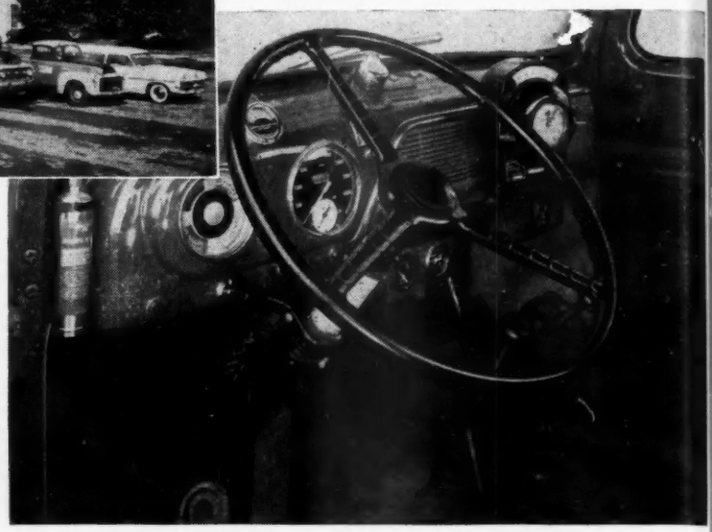
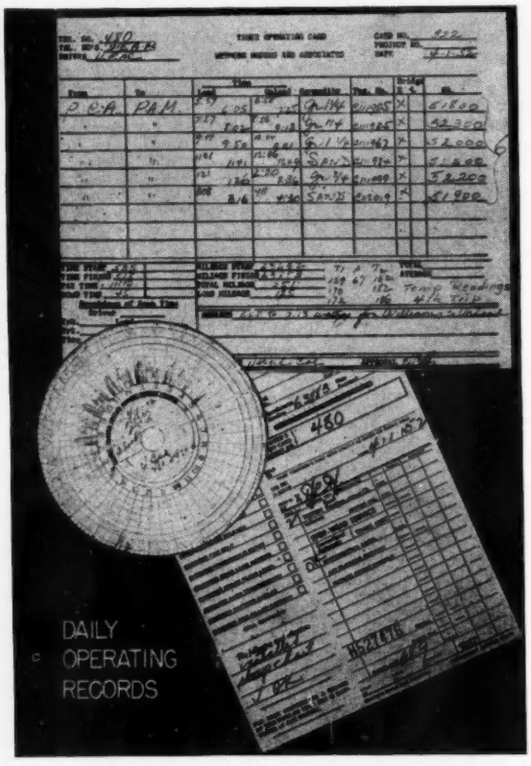


Fig. 3. Commodity card, tachometer record, daily maintenance sheets provide part of information required in proof testing service



Modern Lab Off

Development and proof service, analysis and evaluation of automotive equipment is available at new laboratory-field testing facilities in California

THE modern truck fleet has gone to the laboratory to act as guinea pigs in a novel but established testing service offered by Wetmore Hodges and Associates. Here, in Redwood City, Cal., the Automotive Group has established a laboratory equipped to test and evaluate (or proof-test) a large array of equipment and automotive products for either the manufacturer or the consumer—the fleetman himself.

Not content with laboratory testing alone, the company has taken on a fleet of trucks in which these products are put to gruelling tests. In this way practical evaluation of over-the-road-performance of the products is obtained. With complete and rigid control over the commercial guinea pig fleet, "proof-testing" is made both accurate and practical.

To date the laboratory has made exhaustive tests on a large number of products range from break-in oil to heavy-duty transmissions. Manufacturers and fleet operators alike can obtain here specific data on components, fuels, lubricants, engines, and practically any accessory that can be applied logically to a fleet of trucks. Hodges provides not only development and proof service, but makes recommendations for design changes and modifications based upon the results obtained.

The Hodges' fleet, Fig. 1, consists of both gasoline and diesel powered tractor trucks pulling standard double, bottom-hoppered trains. Operation is over competitive regular commercial hauling routes carrying bulk material (sand, gravel, salt) from source to consumer in the San Francisco Bay area. The vehicles are engaged in heavy-duty service for approximately 20 hours a day, five days a week, accumulating an overall average of 7000 miles per truck. Loads of 76,800 lb GVW are carried over more than half the accumulated

Fig. 4. Before and after field tests, engines or components are completely dismantled in lab and checks are made for wear

Fig. 5. After AP Parts test on break-in oil, engine parts were sterilized and weighed with care

Lab Offers AUTOMOTIVE

Prooftesting Service

mileage, resulting in a total of approximately 200,000 gross ton miles per month per vehicle. Trucks operate under parallel circumstances, under similar mileages and with drivers interchanged at periodic intervals.

Services Included

THE programs include installation of the equipment to be tested, preparation of field test installations, careful evaluation of the products in terms of performance, endurance, operating economy, etc., and the furnishing of complete records for economic and technical comparisons.

Referring to the photographs which show part of the facilities for this evaluating process, the equipment is first modified, Fig. 2, with special gages and instruments which will assist in compiling test informa-

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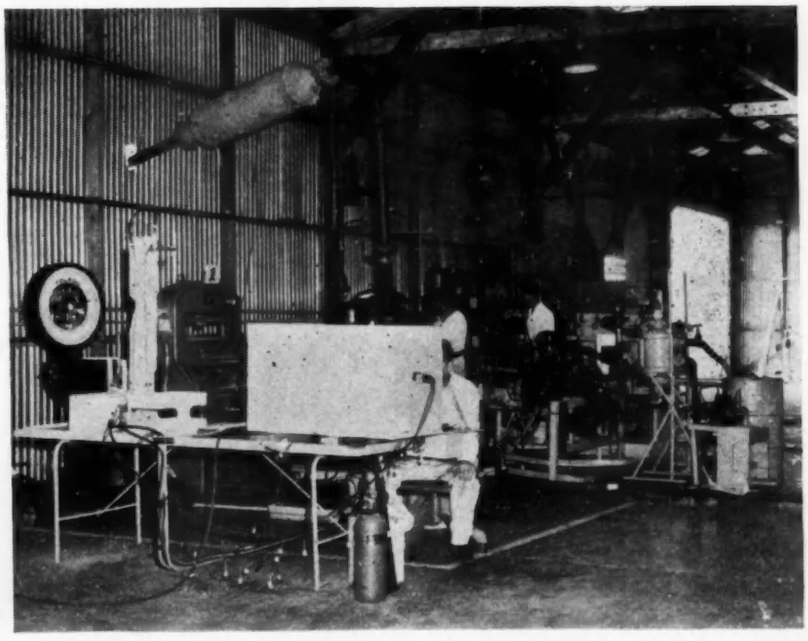
Fig. 6. Dynamometer room adjoining laboratory where power tests are made



New PRODUCTS

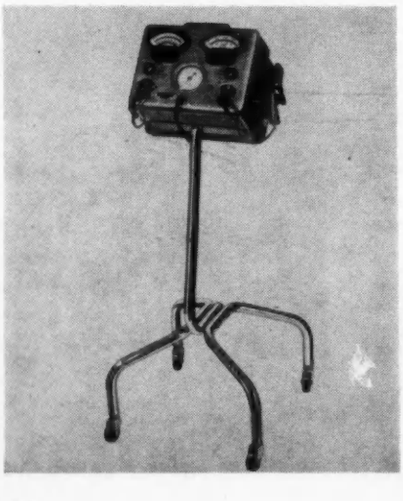
The latest developments in parts, accessories, tools and equipment for the fleet field, described in brief for your convenienc

P1. Dump Hoist

A new 8½-ton capacity dump body hoist is announced by The Galion All-steel Body Co., Galion, Ohio. Known as Model No. 740, the new unit weighs 1025 lb. Capacity is rated on the basis of a 10-ft, 4-yd dump body. Its features include an all-steel subframe with underbody double lift arms. Piston rod diameter is 2½ in. and stroke is 19⅛ in. Cylinder diameter is 7.156 in. Mounting height is 14 in and hoist has a 50 deg dump angle.

P2. Engine Tester

A new tester was announced recently by Sun Electric Corp., Chicago, Ill. It features mobility, convenient waist height and fast tests. To locate the most common causes of poor engine performance, the new Model No. TUT makes the seven following over-all tests fast and accurately; (1) cranking voltage, (2) dwell tests, (3) ignition timing, (4) secondary efficiency, (5) ignition test. (6) engine vacuum, (7) operating voltage.

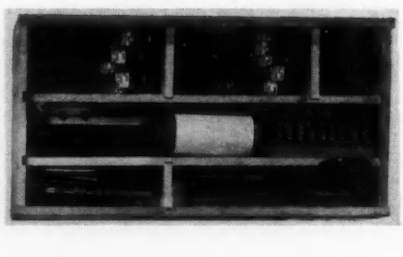


P3. Truck Body Stair

To reduce hazards in climbing in and out of truck bodies, a new device, the "Tacco Truck Stair," has been developed, and is now available from the E. D. Bullard Co., San Francisco, Cal. It permits the driver to walk up and down stairs from the body instead of climbing or jumping. The step extends back from the truck body. However, it cannot be broken off or damaged if the truck is backed into a loading dock or wall because the patented stair is self-retracting and will fold back automatically upon contact. To unlock the stair for use, it is necessary only to trip the tempered spring steel snap latch, pull out the stair, and it drops in place. It is attached to the truck bed or cross frames by four bolts or it may be welded in place. Overall weight is only 50 lb. It is 14 in. wide, 34 in. long.

P4. Diesel Cleaning Tools

A comprehensive line of tools for cleaning all commonly used Diesel nozzles and injectors has been developed by Bacharach Industrial Instrument Co., Pittsburgh, Pa There are 58 special-purpose tools which can be ordered individually or in a variety of assortments, conveniently boxed as shown. Standard kits are available for pintle type nozzles, Bosch and Bendix orifice type nozzles, International-Harvester and Caterpillar Tractor nozzles, Cummins injectors, and General Motors injectors.

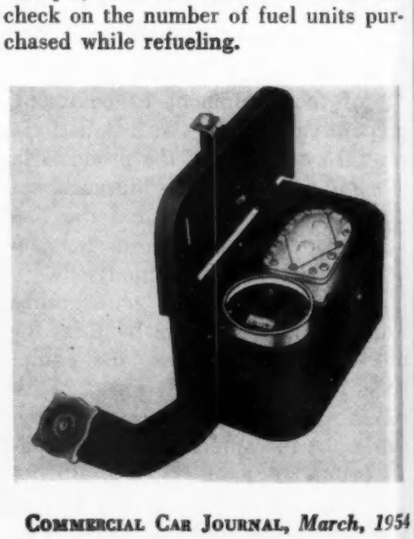


P5. Pallet Truck

Paliton, Inc., New York City, has introduced a pallet truck designed to perform with ease for both light as well as heavy loads. A lift of 5 in. is accomplished with a fast acting hydraulic pump, and lowering is done at a controlled speed. Trucks are marketed in 2600 and 4000 lb capacities, with fork widths of 20½ and 27 in.

P6. Fuel Meter

Fleet Manufacturing Co., Grand Rapids, Mich., is now in production of a new instrument that records fuel delivered to truck tanks. It is of cast aluminum and bronze construction and is encased in a container of heavy steel plate to which is affixed a hasp provided to take a conventional ball-seal. The metering component and safety chamber are completely guarded against tampering by lead safety-seals. Overall dimensions of the container are 12 by 6½ by 6½ in. and the instrument complete weighs 26 lb. This new unit provides driver-protection against lost fuel receipts, and will enable an absolute check on the number of fuel units purchased while refueling.



P7. Handy Lift

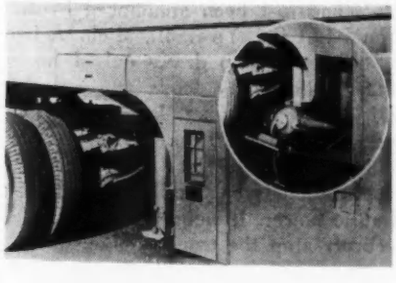
A useful adaptation of the familiar hydraulic operated tailgate has been announced by Cemco Industries, Inc., Galion, Ohio. By mounting the regular tailgate mechanism and platform on a sturdy base (can be portable if desired), those "heavier-than-a-man-should lift" loads can be hoisted safely to a 60-in. height. Platform rests 6 in. above floor in lowered position. Load can be stopped and held securely at any point.

P8. Automotive Paint

Hock Paint and Chemical Works, Inc., Phoenixville, Pa., has announced a new line of automotive finishes. It includes a series of alkyd synthetic finishes and a non-sanding chromate primer. Advantages claimed are dust-free drying in 10 to 15 min, hard drying in 6 to 8 hr, ease of application, excellent covering and flow, deep finish with high gloss and abrasion resistance. Wet samples or color chips can be matched on orders of 32 gal or more of the same color.

P9. Extinguisher Cabinet

A new "all-weather" fire extinguisher cabinet for truck body mounting has been announced by Eberhard Mfg. Co., Cleveland, Ohio. The cabinet features complete weatherstripping, provision for use of wire seal on the handle, air vents and drain holes, instruction plate on cabinet cover. It is designed for most 10 to 15 lb carbon dioxide and 20 to 30 lb dry powder fire extinguishers. Illustrated below is a typical tank semi-trailer installation.



P10. Header Bar

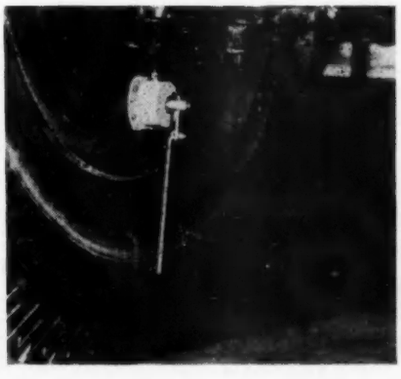
A new split header bar for open top trailers is announced by Aero Canvas Products, Inc., Indianapolis, Ind. The header bar consists of two steel bars hinged to the top of the trailer sides. A clamp similar in action to a luggage clasp hooks to the opposite position of the header bar. Through spring action and manual operation the header bar is pulled together and locked into position. Rigidity of a single steel bar is achieved with the ease of extreme portability. Offered as optional equipment with the split header bar are reinforced top bows and tarp supporting cables.

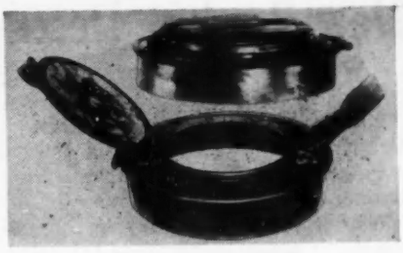
P11. Heat Resistant Paints

Expansion of the line of "Heat-Rem" high heat resistant paints to include two new colors is announced by Speco, Inc., Cleveland, Ohio. They are now available in metallic red and metallic blue, in addition to the standard H-170 Aluminum and XG-170 gold.

P12. Tire Alarm

A new safety tire alarm has been perfected to instantly notify the driver in the cab of a truck or a tractor, when a tire is under-inflated, due to slow leak or other causes. The unit, made by Como Mfg. Co., Chicago, is mounted on the brake plate, and only one alarm switch is required to protect both tires of dual. The alarm switch reports to the driver immediately when tire pressure starts to fall below proper operating pressure, by the means of a buzzer mounted on the dashboard. A flashing red light adds emphasis to the warning. Driver may flip toggle-switch to turn off buzzer until he can pull to side of road, or into next service stop, but the red light continues to flash until cause of under-inflation is corrected.





P13. Tank Manhole

A new, light-weight, low-cost combination fill and manhole for tank trucks and semi-trailers has been announced by Tiona Mfg. Co., Warren, Pa. Of fabricated steel construction, it weighs 14½ lb for manhole and 5½ lb for manhole collar, a total of 20 lb. One outside bolt provides the sole means of attachment. It exceeds ICC requirements. Safety features include low silhouette and superior venting provisions. Standard intake vent area is about double the requirement and the special multiple vent has four inlet valves, any one of which meets ICC requirements. Primary exhaust passages are small and well baffled.

P14. Brake Tester

The "Askania" brake testing recorder, available from Epic, Inc., New York City, is a self-contained recording instrument for measuring the efficiency of brakes in motor vehicles. The measuring is done on the road, under actual driving conditions. The instrument produces a braking diagram which serves as documentary evidence and is therefore valuable for the brake inspection of buses, trailers and trucks, as well as for research work in brake improvement. It is equally useful for acceleration tests, as it can also be used as an accelerometer. The instrument is sturdily built and portable—10 by 7 x 6 in., weight 26 lb—and sells for $650.

P15. Fuel Flow Meter

A new, electrically operated fuel-flow meter that continuously measures and records the gasoline being used by an engine, to the nearest 1/100th of a gallon, has been put on the market by McCulloch Motors Corp., Los Angeles,

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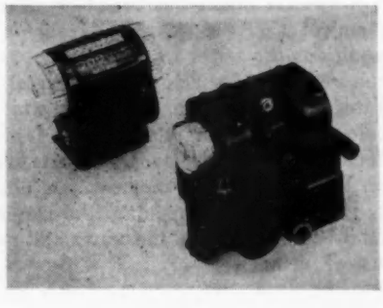


New Product Descriptions

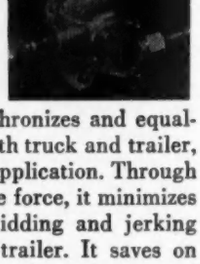
Continued from Page 83

Cal. The meter portion of the instrument fits between fuel pump and carburetor. The counter is attractively finished for mounting on the instrument panel. It reads up to 1000 gal, after which it repeats, and it can be reset at will or locked against resetting. Accuracy within 2% is guaranteed. Capacity is 12 gallons per hour.

P16. Rust Breaker

A pressurized can of "Kroil" is now available that may be kept in the tool kit without danger of leaking. The new aerosol pressurized can of "Kroil" just announced by Kano Laboratories, Nashville, Tenn., provides a handy tool for any job of loosening stuck together metal parts. Kroil is a chemical solvent, is harmless to metal and has a pleasant odor. It is said to penetrate into spaces as small as one millionth of an inch, soften rust, dissolve dried grease and oil.

P17. Brake Synchronizer



Burdick Bros., Inc., Gardena, Cal., have now placed on the market their new and approved Syncro-Brake Valve. It is a differential pressure valve that synchronizes and equalizes all brakes on both truck and trailer, through foot brake application. Through equalization of brake force, it minimizes jack-knifing, tire skidding and jerking between truck and trailer. It saves on tires, brake lining, and overheating of drums. There is no restriction of air pressure through an orifice which affords full air line capacity to all brakes and does not retard brake action.

P18. Rust Inhibitor

New development in the field of electrolytic action to inhibit rust and corrosion is the "Magic Mechanic," designed for use in vehicle radiators. Made of a special metal developed by Dow Chemical Co., the "Magic Mechanic" conditions the water in the cooling system, reducing its acidity immediately. Water becomes clean and clear while scale and corrosion attack the "Magic Mechanic," instead of vehicle parts. It can be installed in a moment. Its clip fits the radiator fill opening, the magic metal beads hang into the water and go to work at once.

P19. Signal Switch

K-D Lamp Co., Cincinnati, Ohio, is presenting to the trade its new turn signal switch which affords an important advantage because it is one stock switch for all applications. It operates KD and all competitive turn signals, features in-the-line plug-in flasher, fuse accessible for easy maintenance, and simple three wire hook-up. It has a short sturdy housing, with inside welded plate threaded for bracket bolt for vibration-free mounting. Latest AAMVA green indicator light flashes continuous assurance when signals are functioning properly by refusing to even glow when the signal bulb on the side toward the turn fails. Finger tip control switch handle length is adjustable to the wheel diameter by removing the cap, adjusting setscrew, and moving handle to desired length.

P20. Converters

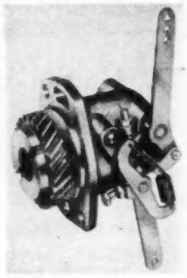
Illustrated below is one of a new series of dc to ac converters that plug into the vehicle's cigarette lighter and operate dictating machines, wire recorders, electric shavers and similar low wattage appliances announced by Ter-

ado Co., St. Paul, Minn. The unit above, available for 6 or 12 volt systems, converts dc to 110 volt, 60 cycle, ac. It is rated at 35 to 40 watts. Other similar models are rated at 60 to 75 watts, 40 to 50 watts, 10 to 15 watts. A unit is also available for conversion from 6 or 12 volt dc to 110 volt, 115 cycle ac. It is rated at 35 to 40 watts.

P21. Condenser

Standard Motor Products, Inc., Long Island City, N. Y., has just announced a new development which produces an hermetically sealed condenser guaranteed against moisture getting into the winding. This seal is accomplished in three ways: First, there is a red molded Bakelite top and second a blue Vinylite lead is soldered to the inner side of the brass insert which is molded into the Bakelite top, thus completely sealing the opening through which the wire passes. Third, a Neoprene gasket is compressed between the Bakelite top and the shell where it is curled over the circumference of the top.

P22. Governors



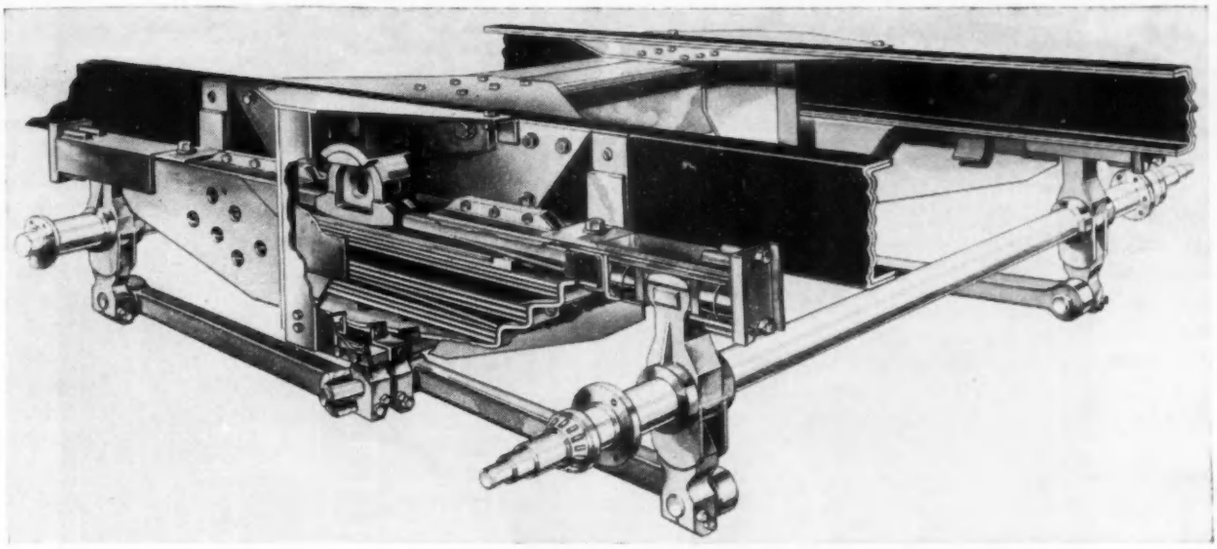
Now, gear-drive, mechanical governors made by Hoof Products Co., Chicago, provide closer regulation over a wide operating range, without spring change by means of an exclusive external 2-spring system. This does away with the need for a number of governors for the same engine. Secondly, they employ ball or roller bearings at all load points to minimize friction. Fly-weights, for example, incorporate load-easing needle bearings. Thirdly, the large oil capacity of the governors and their use of oil seals throughout, eliminate the need and cost of daily oilings.

P23. Brake Fluid Replacer

Crystal Research Laboratories, Inc., Hartford, Conn., has announced a new "Crystalab Handi-Quick" brake fluid dispenser. It consists of squeezable polyethlyene plastic bottle with transparent plastic feed tube and metal shut-off clamp. To use, simply place end of tube in master cylinder opening—invert bottle and squeeze. Rate of flow is controlled by varying the pressure, and shut-off is made positive by hand operated clamp on tube. Easy-to-read measurement scales are printed on the side of each translucent bottle. Liquid level shows against the upright scale to accurately indicate amount of fluid.

P24. Hoist Pump

Release of a completely new "Hydra-Clutch" pump to provide hydraulic power for its line of underbody hoists, elevating end gates and snow plow controls has just been announced by National Lift Co., Ypsilanti, Mich. A fan-belt driven pump draws only 1 hp in dumping capacity loads and operates only when dumping load. Fan belt pulley idles freely on lifetime sealed ball bearings except when all-metal band clutch is engaged to provide hydraulic power. It weighs 18 lb, mounts securely atop the truck engine.



TandemTrac Axle is Self-Tracking

A NEW tandem axle suspension unit built by Truck Equipment Co. of Buffalo offers such features as automatic tracking and automatic alignment, light weight, variable rate springing and ease of installation on equipment. Designed on the rocking chair principle, components roll instead of slide, thus offering improved riding qualities as well as longer wearing life. There is no lubrication required.

The simplified assembly as used on the 32,000 lb axle loads weighs only 1000 lb. Light, high-strength steel and weldments are used in the construction. The design is such that load transfer from axle to axle is said to be reduced when brakes are applied. Axle or wheel hop is said to be eliminated during severe braking applications.

The TandemTrac suspension is usable with a trailing axle, dual drive axles, a pusher axle or as a tandem for trailers with minor changes at installation. One size is available for 16,000 lb axles, though 8.25, 9.00 or 10.00 tires can be used.

The unit provides for a 60-40 per cent weight distribution between axles on trailing and pusher type installations when the vehicle is empty and 50-50 per cent distribution when loaded. A coil spring is connected from the dead axle to the frame to transfer additional weight to the live axle when the truck is empty.

On trailer tandem or dual drive installations, the pivotal bearing point is centered and no coil springs are required. The weight distribution, full or empty, is automatically 50-50 per cent between axles.

The two axles of this new tandem axle suspension are connected to the frame by two pairs of radius arms or torque members which are not parallel but converge forward toward the

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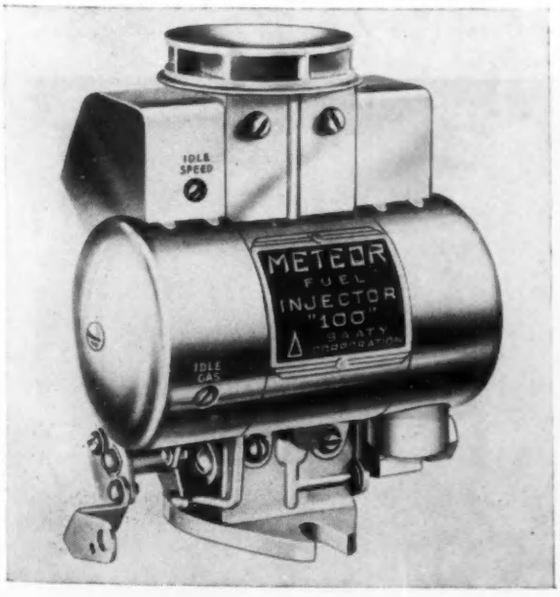

Low Pressure Fuel Injector

A NEW low pressure fuel injector for passenger cars and trucks is now being produced by the Saaty Fuel Injector Corp., Providence, R. I. Known as the "Meteor Fuel Injector 100," it replaces the standard carburetor and is claimed to provide a nearly perfect mixture of atomized gas and air to each cylinder, thus obtaining maximum efficient use of the fuel.

The unit consists of a body, a fuel section and a control assembly. The lower part of the body houses the atomizing and metering nozzle located in the center. This injects a fine spray into the air stream going directly into the manifold. Above the nozzle are located the air valve and throttle.

The factory sealed fuel chamber is fed from the standard engine fuel pump and reduces the pressure to a constant ¾ lb pressure. It also vents out vapor and air, thereby preventing

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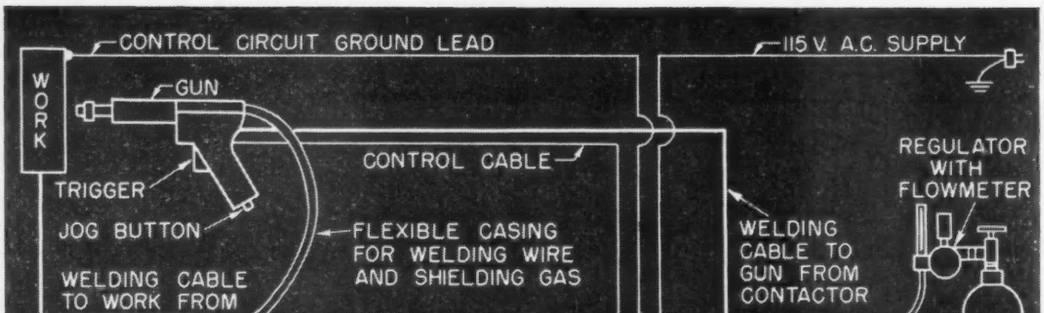

Schematic drawing shows equipment required in fleet shop for welding with this process. Equipment is relatively inexpensive where volume work is performed in terms of labor saved

Welding of aluminum sheet and plate with this inert-gas process offers substantial savings to fleetmen in body building, repairs

Inert-Gas Welding for Truck Bo

Body Work

By R. E. Stentz and George Kotcher
Air Reduction Sales Co.

WITH THE development of two major inert-gas arc welding processes, both of which make possible flux-free welding on aluminum, these advantages are being made increasingly available to fleet shops, with the result that there has been a steady displacement of steel by aluminum where its use offers tangible benefits.

These two welding processes—(1) the inert-gas tungsten arc or Heliwelding process for aluminum sheet and (2) the inert-gas metal arc or Aircomatic process for aluminum plate—offer savings to fabricators of transport equipment resulting directly from the production advantages inherent in their use, and savings to transport outfits realized through reducing dead weight and correspondingly increasing pay loads.

Much of the material used in trucks and trailers is thin sheet, while the structural frames and heavy bodies require greater thicknesses of material. On thin aluminum up to ⅛-in. in thickness the inert-gas tungsten arc process is achieving widespread use, while on aluminum above this thickness the inert-gas metal arc process is the most effective.

Although there is an obvious overlapping usefulness here (where specific job factors are going to apply), the significant fact is that the combined range of these two processes can satisfy virtually any type job on aluminum.

Inert-gas shielded tungsten arc process is a non-consuming electrode process which minimizes the risk of inclusions in the weld by permitting flux-free welding. The process uses a non-consumable tungsten electrode and a shield of inert-gas: helium or argon or mixtures of both —depending on a number of job factors. Because of the blanket of inert gas (plus the electrical characteristics used), the need for the use of flux on rapidly oxidizing hard-to-weld metals such as aluminum is eliminated.

The shielding gas protects the weld metal from the various active elements in the atmosphere which would otherwise combine with the weld metal and create oxides, gas porosity, and other undesirable results. In some cases the shielding gas is used on the underside of the work-piece as a protective measure.

Peak efficiency with the Heliwelding process is on work ⅛-in. thick and under. Many jobs can be handled without filler metal. When filler metal is required, it can be intro-

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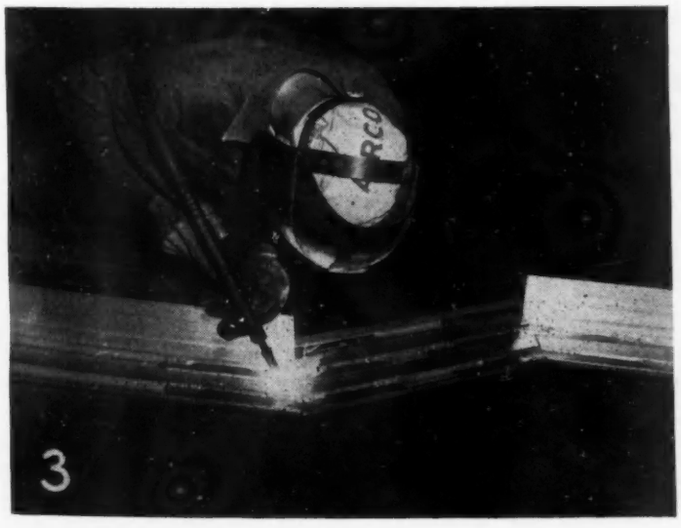
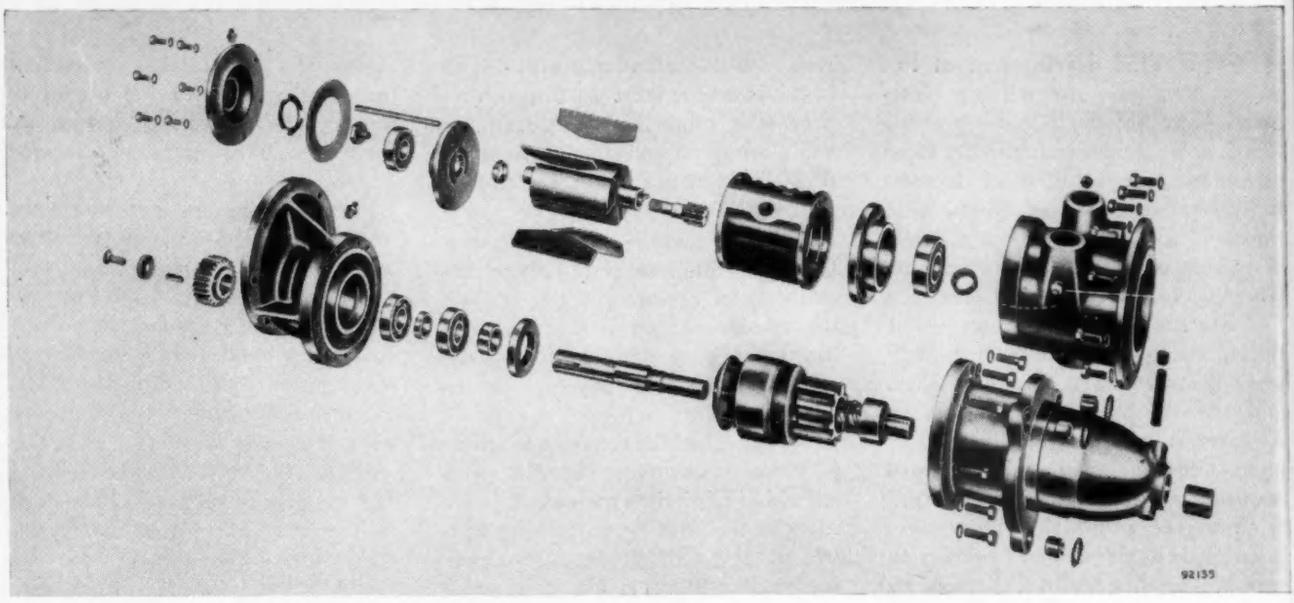


Fig. 1. At Gramm Trailer Corp. assembly plant, inert-gas welding equipment is used. Welder is fabricating some light-gage sub-assemblies for trailers

Fig. 2. Welder completes a downhand weld on wheel housing using process with Heliweld gun at Gramm

Fig. 3. Shown here is a rub-rail being fabricated for trailer body. Less slag speeds clean-up work

Fig. 4. Overhead welds are performed with relative ease. Inert-gas methods used on aluminum actually reduced Gramm's welding labor costs by 50 per cent

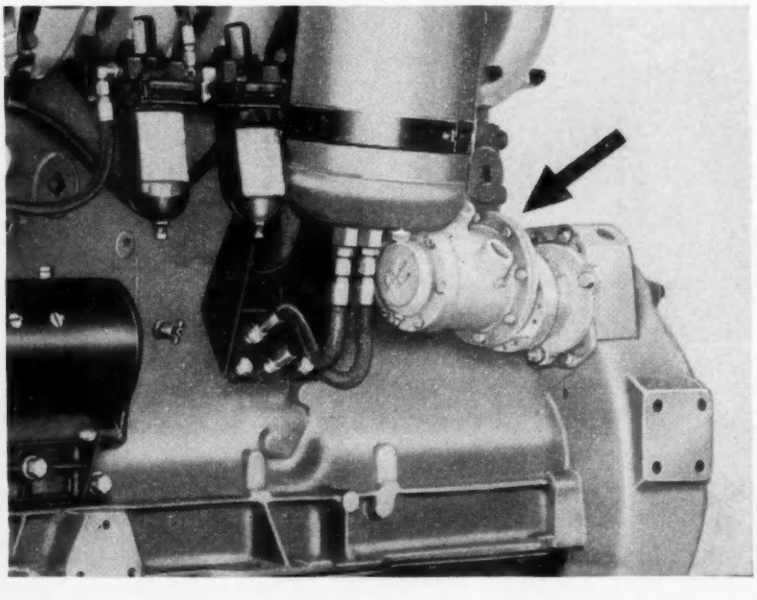


Exploded view of Ingersoll-Rand Model No. 9BM air starter. At 100 psi, starter delivers 9 hp, 45 lb ft torque and 2000 rpm

The Air Starting Motor

It consists of air receiver or tank, air motor and Bendix drive. Air is

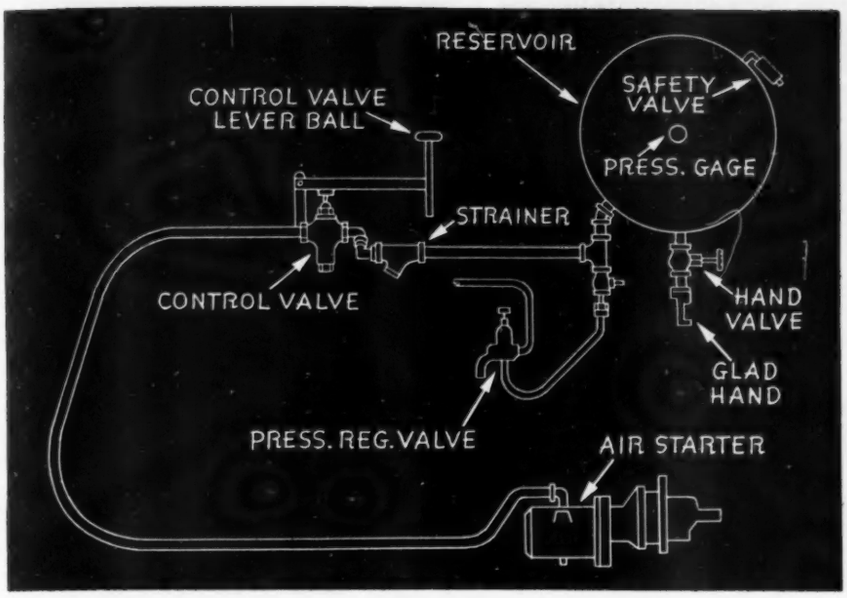
Arrow indicates position of air starting motor offered as optional equipment on new line of diesel engines recently introduced by Mack



ONE truck manufacturer is using the air starter on production vehicles and others are offering it as optional equipment, or are about to go into production of a line of trucks equipped with air starters. Other truck and bus producers are still in the testing stages.

Two series of Diesel powered COE highway trucks being produced by Mack Manufacturing Co. are coming off the line with the air starting system as standard equipment. These trucks include the four-wheeled H-61T and the six-wheeled H-61ST. This marks the first instance of production highway vehicles being so equipped. Mack is also offering the starter as an option on a recently introduced line of diesel engines.

Air starting is particularly effective with diesel engines since it spins the engine at considerably higher speed



Schematic diagram showing "plumbing" and valve connections for the starter. Starter operates on 40 to 150 psi, depending on engine type and starter size

HERE ARE SOME TECHNICAL

facts for fleets

Supplementing the shop manual and providing better mechanic know-how on important vehicle components

supplied from compressor on vehicle's brake system

than the conventional electric starter, thereby providing quick and more starts by reason of the higher air temperatures thus produced in the combustion chambers.

The Ingersoll-Rand air starting system which is being utilized for these installations consists of an air motor, a conventional Bendix drive, an air receiver or tank, and the necessary plumbing and valves. The air compressor used for the vehicle's braking system is also utilized to supply air for the starter operation.

The air motor was designed for heavy-duty industrial use—24 hr per day service. Actually, an automotive starter, whatever the type, isn't operated more than five minutes per day except in some extreme circumstances. The motor is of the conventional vane type, with a ball bearing mounted rotor, turned by air.

The five vanes used for the unit are of the floating type and air is used as a spring to force contact with the cylinder wall. Air enters under the vanes by means of drilled passages which receive the compressed air from slots cut in the end plates, see illustration of exploded view, in a semi-circular fashion around the rotor bore. Intake and exhaust passages are cut in the cylinder walls. Exhaust air is ported through slots.

Reduction gearing also is incorporated with the motor. The pinion gear is splined to the rotor shaft, while the one reduction or drive gear is keyed to the output shaft which in turn drives the starter pinion in the Bendix starter drive. The output shaft runs in two anti-friction bearings which are located adjacent to the reduction gear.

Recommendations for air tank or receiver size vary from four to six cu ft. This depends primarily on the physical requirements of existing vehicles. The Mack production models are utilizing six cu ft capacity tanks, and it is felt as though this size will be the most widely used for production highway vehicles. All vehicle makers as well as Ingersoll-Rand agree on tanks with a working pressure of at least 150 psi. Depending on the type of engine and size of starter being used, the air starters may require from 40 psi to 150 psi for operation.

Normal tank fittings beside the lines for the compressor and starting motor include two valves for emergency use. One of these is of the Schrader tire valve type and the other is of the glad hand variety. The spring loaded Schrader type provides for filling the tank from external air compressor lines, while the glad hand valve is used for inter-truck exchange. This arrangement is particularly handy for turning over the engine in cold weather.

Auxiliary Air

BY equipping the starting system air tank with a by-pass valve to the brake air tank, an auxiliary source of air is then available for emergency stops or constant downhill braking. This feature has been added by several operators according to reports from the field.

For starter operation, a quick-acting throttle valve is utilized. This may be operated by a manual release or by a solenoid. The throttle should always be opened rapidly, as engagement of the Bendix pinion depends on sudden starting of the air motor.

Another item which should be placed in the air starting system is a water and oil separator. Both the throttle valve and the lubricator should be placed as close to the starting motor as possible. A check valve between the compressor and the tank should be incorporated in the system to prevent loss from the air receiver.

Tests run with an Ingersoll-Rand Model 9BM air starter showed that the starter consumes about one cu ft of air at atmospheric pressure, per start. This was based on an installation on a 200 hp Cummins Diesel

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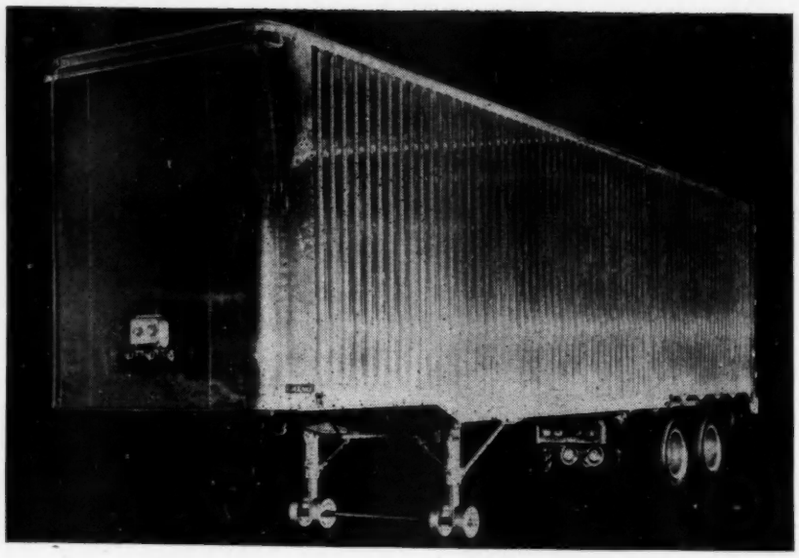

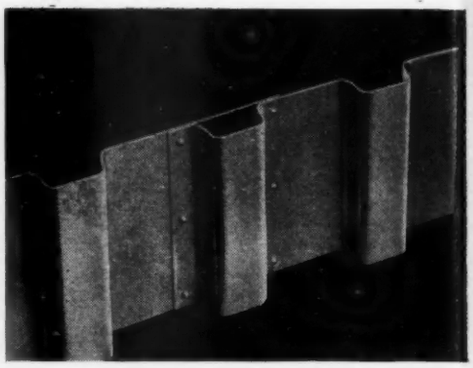

Above. Every third corrugation is overlapped and rivetted from roof to rubrail to obtain a box-section post every 18-in.

At Left. Inside width of new "Hi-Cube" model is 93 in. Lower floor and thinner roof also provide greater loading cubage while retaining legal outside dimensions

Hi-Cube Aluminum Van

Keynotes Many Fruehauf Developments

IN WHAT might be termed a "Trailerama", Fruehauf Trailer Company last month set up one of the largest and peppiest sales meetings in its history. Under a theme of "Let's grow" the company loaded up 44 trailers models (the entire line) and 450 salesmen from all parts of the country and took them to the Cleveland Municipal Auditorium. Here, for two days the salesmen were wined, dined, entertained and shown Fruehauf's plans for the years ahead. After a morning's sales confab the entire model line was paraded across the auditorium underground display area on a stage built up between the banquet tables. During this two hour presentation speakers and films outlined in detail the new features of each spit and polished model. In the procession four new trailers made their debuts: a new Hi-Cube or high volume corrugated aluminum job; an aluminum platform number; a stainless steel van and a new tank trailer designed for hauling bulk flour. Here is what these trailer men will be talking for some time:

They call it the biggest dry freight van in the world for any given length and height. In this corrugated aluminum Volume Van, walls, roofs, doors and floors have been made thinner at no sacrifice in strength, thus providing for as much as 400 extra cu ft of cargo space in a 35-ft trailer. With an overall width of 96 in. these jobs feature an inside dimension of 93 in. This has been done through narrowing the upright supports

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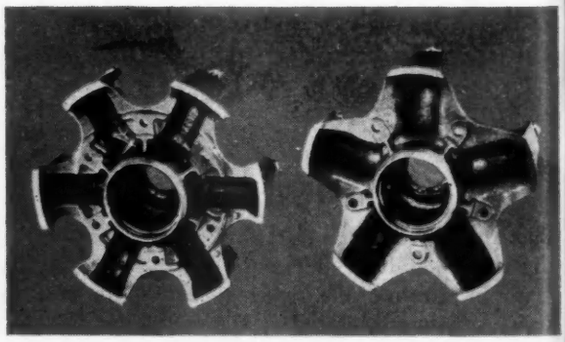

New 5-spoke wheel, right, weighs 57 lb for 20-in., 61 lb for 22-in. size. In addition to weight saving, design affords improved brake drum cooling

On new platform trailer, lights and reflectors on front corners are recessed, protected from damage

Bendix AIR-PAK

gives faster, better controlled braking by combining air power with hydraulic actuation

For power braking that meets every situation, specify AIR-PAK*. Here in one easy-to-install unit is combined the advantages of hydraulic brake actuation with an air brake system.

Here's how it works. AIR-PAK changes air pressure into hydraulic pressure by means of two directly connected pistons. Thus, a non-compressible column of brake fluid instead of air connects between the driver's foot and the brake shoe. The result is faster brake action and better control.

Another important AIR-PAK advantage is the fact that brakes can be applied by foot power alone—an emergency stand-by when braking is required before air pressure builds up, or if air pressure should fail for any reason.

The performance proven AIR-PAK is a product of Bendix, largest producer of power brakes and builder of Hydrovac*, world's most widely used power brake.

For truck manufacturers or operators interested in AIR-PAK, an illustrated folder is available on request.

*REG. U.S. PAT. OFF.

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FOR YOUR CONVENIENCE USE THE POSTCARD ON PAGE 82.

L1. Valve Gear Data

"A Question and Answer Discussion of Valve Gear Problems" is the title of a recently published, 14-page booklet on valve operating conditions, material and design, seat inserts, tappets and hydraulic lifters.

It is a series of answers to questions often asked by fleet supervisors and field engineers, many during the recent regional transportation conferences conducted by the Ethyl Co. Where necessary for clarity, illustrations and line drawings have been included.

Typical of the questions answered are:

Is preignition a common cause of valve failure? How can it be distinguished and how can it be overcome?

What represents the most practical method of combatting excessive valve train wear?

Is counterboring of the guide, or a recessing of the stem in the area where the valve stem enters the guide, a good practice?

Is there a simple way to determine, or even estimate, the temperature at which a valve is operated?

Is tappet face wear or pitting more common with hydraulic lifters than with mechanical tappets?

Would hydraulic valve lifters be of much benefit in truck operation, or would they cause too much trouble?

Fleet maintenance supervisors and others interested in the answers to these and similar questions on valve wear can get a copy of this publication by circling I.1 on the postcard on page 82.

L2. Oil Filter Report

This 16-page booklet is a rather comprehensive, brief report on the operation and construction of filters and purifiers for oil circulating systems. It opens with a review of oil contamination from foreign matter and as a result of oxidation. Discussion of the various types of oil purification and filtration follow, including both automotive and industrial methods.

A ready-reference chart compares these various methods from the viewpoint of their application to full flow, by-pass, shunt or batch systems and also from the viewpoint of contaminants removed, such as large and small particles of insoluble solids, oxidation products, water, dissolved gases, fuel diluents, etc.

A complete section is devoted to specific internal combustion engine considerations. Three interesting charts are included in this section as follows: (1) oil anlysis after normal automotive use with and without a filter, (2) typical used automotive oil analyses, and (3) average typical analyses of low temperature sludge deposits.

For a copy, circle L 2 on the postcard on page 82.

L3. Grinding Manual

Here is a complete, 35-page manual on cylindrical grinding. It starts with general instructions for setting-up the machine—location, lifting, leveling—and concludes with a series of three checklists—operating, maintenance and safety suggestions.

In between it discusses work speed, table traverse speed, grinding wheel feed, spindle and bearings, grinding wheel speed. the grinding wheel, mounting the wheel, balancing the wheel, truing and dressing the wheel, use of coolant, use of work rests, and common grinding wheel troubles.

Fleet maintenance men will be especially interested in two special tables included in the manual. The first is a table of grinding wheel speeds. It gives the rpm necessary for various diameters of grinding wheels to obtain specified peripheral speeds in feet per minute. The second chart lists materials to be ground and the various manufacturers' wheel model number for each material.

The book is completely illustrated with large photographs illustrating the different operations discussed.

The special six-page section on how to correct grinding wheel troubles lists the complaint, the cause and how to correct it under the following headings: chatter, spirals on work, checking of work, burning of work, work scratches, inaccuracies in work, inaccurate work sizing, jumpy infeed or traverse, wheel acting too hard or too soft, wheel loading and glazing, and wheel breakage.

Circle L 3 on the postcard on page 82 for your copy of this grinding manual.

L4. Fleet Bibliography

This list of books on truck fleet operation and management should have a place in the files of all interested in improving their knowledge of the industry. It was compiled by the Education Committee, Regular Common Carrier Conference, American Trucking Assns.

Main section of the publication is divided into sections as follows: books on motor freight transportation, pamphlets and booklets on the same subject, government publications concerning truck transportation, trade papers concerning truck transportation, and books, pamphlets and trade papers on general transportation and traffic management.

Each publication is listed by author, title, publisher, address where publication is available, brief description of content and price. Two additional indexes list alphabetically the author's (or publisher's) name, and the title of the publications.

To obtain a copy of this handy reference list of books on fleet operation and management, circle L 4 on the postcard on page 82.

For information on additional literature of interest to fleet operators, see page 142

At safety banquet last May, 12 drivers received wrist watches for driving five years without a chargeable accident

Driver-Management Cooperation Sparks Tose Safety Program

Monthly meetings, accident review board keep the training on a continuous basis

By A. W. Palm,
Operations Manager, Tose, Inc., Bridgeport, Pa.

Here Is *WHAT* We Did

In the last five years we have been able to cut our annual accident frequency by approximately 25 per cent, despite an almost 50 per cent increase in the number of units in service and a similar increase in annual mileage.

Chief reason for the improvement, we believe, is our safety program, which while not elaborate has proved to be definitely effective.

At recent ceremonies marking the end of the fifth year of the program, we were able to present wrist watches to 13 of our 120 drivers for accident-free records for the entire five years. Eight others received awards for four years without a chargeable accident, several others had two and three year safety records.

Last year, 58 men, or almost half our driving staff, were without a chargeable accident. During the year, the fleet covered 2½ million miles.

Here is *HOW* We Did It

DRIVER-management cooperation is the underlying basis of our safety program. Believing that a safety program must be on a continuous basis, we hold regular monthly driver-management meetings. These last for an hour and are held in the morning and at night so that all drivers may attend.

In addition to these meetings our accident review board meets once a month, usually on the last Saturday morning of the month. Drivers involved in accidents during the period must appear before the board, on their own time.

The review board consists of a union steward for city and over-the-road drivers, two driver-representatives and three members of management. Chairmanship of the board alternates from month to month.

At the meeting, each driver involved in an accident is required to appear and give his version of what happened unless he has been able to obtain a signed statement absolving him from blame. After the driver has testified, the board considers

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1953 New Truck Registrations by Makes by States*

STATE AND MONTH		Auto-car	Brock-way	Chev-rolet	Dia-mond T	Divco	Dodge	Fed-eral	Ford	FWD	GMC	Inter-na-tional	Ken-worth	Mack	Peter-bilt	Pon-tiac	Reo	Stude-baker	White	Willys	All Others	Total
Alabama	Dec.			781		0	202		665		152	145		5			1	31	8	24		2,023
	12 Mos.	13	1	7996	24	29	1706	7	5575		2073	1299	1	121			28	405	217	158		19,653
Arizona	Dec.			168	2		47		143	1	55	36	2	2		1	3	7	7	12		486
	12 Mos.	2		2511	14	6	623		1879	2	839	652	34	45	3	4	51	233	67	193	2	7,160
Arkansas	Dec.			399	2		63		398		105	63		5			3	21	3	10		1,072
	12 Mos.	3		6958	15		1276	4	5832	1	2126	1349		20		2	18	482	109	182		18,357
California	Dec.	7		1267	15	7	530	1	1210	1	388	287	5	12	5		9	53	44	79	8	3,888
	12 Mos.	123	6	24670	283	146	7707	10	17888	74	7494	5622	219	262	222	56	232	1849	595	1786	171	69,345
Colorado	Dec.			234	2	2	56		248	2	67	59	2	3			3	14	1	39		732
	12 Mos.	30		3790	70	36	826	9	3106	13	1109	1236	16	65	8	3	30	286	55	511	1	11,180
Connecticut	Dec.	7	6	174	14	8	61	4	174		45	86		34			3	15	14	17		662
	12 Mos.	49	51	2485	114	95	827	43	2067		686	925	1	182		5	65	261	143	206	9	8,214
Delaware	Dec.			60			15		37		10	13		1				1				137
	12 Mos.	10	12	1073	6	5	274	5	695		189	308		30			9	81	17	20		2,734
Dist of Columbia	Dec.	6		69			20	1	79		22	75							7	7		288
	12 Mos.	14	1	938	13	39	447	2	568		302	276		18		2	24	12	25	46	1	2,728
Florida	Dec.	1		484	5	9	186	1	758		151	114		12			2	20	32	60		1,835
	12 Mos.	18		7924	62	67	2216	14	6524		2084	1873	7	355		3	120	805	410	844	14	23,340
Georgia	Dec.	1		496			122		591		83	78		7			2	14	16	10		1,420
	12 Mos.	14	6	9011	54	13	2009		7015		2186	1877		122		7	43	690	232	160	2	23,441
Idaho	Dec.			153	2		66		140	4	55	52	1	2				18	3	19		515
	12 Mos.			2248	21	2	703	2	1844	6	952	995	54	60	10	2	15	241	31	412	9	7,607
Illinois	Dec.			1103	31	14	304	3	1224	2	216	429		7		1	2	71	48	69	13	3,537
	12 Mos.	24		15208	423	116	4175	10	11910	9	3104	5810	3	160		16	128	1082	595	573	90	43,436
Indiana	Dec.	3		576	6	6	176	2	866		99	225		6			2	35	68	36	4	2,110
	12 Mos.	23	1	9898	103	137	2481	24	8124	3	2111	3807	2	122		10	114	1058	687	374	29	29,108
Iowa	Dec.			708	7	5	143		622	1	83	311	3	6			3	25	18	17		1,952
	12 Mos.	4		7064	75	46	1390	2	6318	10	1142	3159	8	53		10	46	446	197	203	17	20,190
Kansas	Dec.			453			68		428	1	108	125						7	4	20		1,214
	12 Mos.	2		7042	35	19	1096		5277	2	1752	2236		11		6	13	415	120	249	2	18,277
Kentucky	Dec.			555	6	1	107	1	699		131	101				2	3	19	7	13		1,645
	12 Mos.	2		7032	40	24	1295	18	5685	2	1708	1625		44		14	74	464	117	381		18,525
Louisiana	Dec.	1		406	2	1	70		416		104	84		1				11	8	15		1,119
	12 Mos.	10		7568	39	20	1443	2	6104		1890	1764		49		5	11	553	109	227	1	19,795
Maine	Dec.	1		76		1	37		98		35	23		3		1		3	2	22		302
	12 Mos.	10	9	1760	33	12	541	2	1446	1	575	550		96		7	15	190	46	259	7	5,559
Maryland	Dec.	3	1	236	7	1	99	7	264		53	83		4			6	13	14	10		801
	12 Mos.	23	66	3751	25	26	1504	39	2994	3	814	1196		152		6	40	225	213	119	3	11,199
Massachusetts	Dec.	4	1	191	3	10	64		266		35	68		8		1	10	8	16	24		709
	12 Mos.	86	83	3643	94	135	1241	17	3313	8	893	1247		277		20	195	409	286	316	28	12,291
Michigan	Dec.	6		993	18	34	375	4	1656	1	231	257		19			24	20	48	46	2	3,734
	12 Mos.	72	3	14409	170	328	4162	175	13963	4	3253	2494		128		18	293	550	304	457	12	40,795
Minnesota	Dec.			466	4	7	115	2	483	1	100	201		4			14	18	14	41	2	1,472
	12 Mos.	1		6461	99	60	1483	17	5767	21	1404	2639	6	72		14	79	490	136	291	14	19,054
Mississippi	Dec.			798	1		138		760		163	182		1		2		23	8	11		2,087
	12 Mos.	2		7381	3		1188		5359	1	2209	1567		25		4	2	440	53	140		18,374
Missouri	Dec.			646	3	1	119		623		134	150		2			12	30	20	19		1,759
	12 Mos.	13		11631	67	113	2025	1	8213	3	2899	2602		84		4	67	666	408	269	2	29,067
Montana	Dec.			128	1		41		209		45	56	1	2		2		5		34		524
	12 Mos.	2		2488	8	5	504	2	2262	2	738	1112	39	30	1	3	14	240	51	493	7	8,001
Nebraska	Dec.			252	7		33		237		49	95	1	12				9	18	34	2	749
	12 Mos.	11		4437	98	20	644		3895	10	1120	1978	22	56	2	3	17	281	129	355	45	13,123
Nevada	Dec.			44			9		62		26	9						5		8		163
	12 Mos.			614	1		240		537	1	321	159	1	9			2	116	4	125		2,130
New Hampshire	Dec.	1	1	68		1	19		77		20	11		6		1	1	1		16		223
	12 Mos.	4	11	970	6	12	252		757	1	261	271		67		3	26	88	14	174	7	2,924
New Jersey	Dec.	13	19	416	7	12	232	4	602		92	172		39		1	5	22	34	17	2	1,689
	12 Mos.	123	318	7509	134	156	2046	71	7047	8	1958	2169		438		17	75	463	624	333	11	23,500
New Mexico	Dec.			130			40		91		35	24		3	2			8	4	17		354
	12 Mos.	3		2597	23	2	402	4	1607	5	741	494	14	101	2	4	16	207	59	146	1	6,428
New York	Dec.	15	63	986	17	4	448	27	1137	5	229	487		66		5	27	50	71	64	11	3,722
	12 Mos.	424	729	14415	301	118	5650	148	12029	23	3572	5681		1029		31	460	915	924	1138	117	47,704
North Carolina	Dec.			683	22	4	117		770		151	148		25		1		28	27	21		1,997
	12 Mos.	14		10188	52	50	1983	5	7941	1	2445	2169		288		8	25	711	417	376	12	26,685
North Dakota	Dec.			189		1	17		102		17	48						6		2		382
	12 Mos.	2		1869	4	2	389		1932		464	1216		6			3	147	6	85	3	6,128
Ohio	Dec.	3	2	750	8	27	319	7	1399	3	155	330		26		1	31	48	57	69	3	3,238
	12 Mos.	108	19	13291	152	219	4339	98	13029	14	2829	5085		372		24	282	857	1049	720	23	42,510
Oklahoma	Dec.	1		760		1	137		861	5	167	174		6			3	41	21	15		2,192
	12 Mos.	8		8617	7	24	1331	1	6580	27	2474	2183	5	37		7	36	506	234	179	1	22,257
Oregon	Dec.			278	4	3	62		215		96	71	5	4			3	13	14	38	1	807
	12 Mos.	26		3867	86	28	1215	7	3526	8	1548	1606	92	106	53	4	48	274	174	738	11	13,415
Pennsylvania	Dec.	11	56	906	17	31	445	2	1261		246	427		83		6	43	43	93	67	3	3,740
	12 Mos.	195	731	14869	215	201	5502	143	12708	7	3454	6007		750		49	329	986	1019	764	36	47,965
Rhode Island	Dec.	2		65	5		17		73		8	22		5			1	2	8			208
	12 Mos.	37	2	804	39	18	284		761	4	152	308		43		2	17	94	65	31	1	2,662
South Carolina	Dec.			501	1		124		500		82	58		2				31	9	8		1,316
	12 Mos.	3		5516	4	5	989		3439		1137	752		60		3		317	97	70	5	12,397
South Dakota	Dec.			106	2		18		109		28	47						8	1	17		338
	12 Mos.			1641	34	3	416	2	1452	1	485	1034	4	1		4	7	146	21	213	1	5,465
Tennessee	Dec.			494	1	4	115	23	519		92	101		2			1	7	4	10		1,373
	12 Mos.	3	6	7933	35	15	1813	44	6207		1958	1866		109		2	35	428	221	205	1	20,881
Texas	Dec.	16		1550	8	3	375	1	2144		466	366	4	21			6	89	75	93	2	5,189
	12 Mos.	143		30025	139	38	5012	28	23099	5	6142	6044	41	267		36	112	1748	1145	818	15	74,857
Utah	Dec.			89	1		24		72		32	26	1		1	1	1	3	7	15		273
	12 Mos.	2		1594	31	4	368	3	1325	3	454	545	20	38	9	3	24	86	42	194	3	4,748
Vermont	Dec.		1	57			18		60		11	15						5		24		191
	12 Mos.		13	786	9	4	281	3	561	3	298	389		27		2	12	70	12	247	8	2,705
Virginia	Dec.		2	514	5	1	113	1	605		95	91		9			1	22	17	29		1,495
	12 Mos.	31	12	6440	19	46	1666	6	5067		1551	1453		182		7	71	497	299	333	5	17,695
Washington	Dec.			198	1		74		225		76	68	2				5	10	6	20		685
	12 Mos.	3		4048	49	22	1478		3510	2	1594	1720	154	125	21	6	50	266	178	467	25	13,718
West Virginia	Dec.			197		1	64		256		54	50		2				11	7	23	2	667
	12 Mos.	8		3243	8	26	1032	6	2826		904	826		104		14	16	189	83	433	6	9,724
Wisconsin	Dec.			420	3	2	96		491	1	70	164		1			4	19	32	35	2	1,340
	12 Mos.	14		6296	58	77	1598	12	5306	69	1459	2635	1	75		15	110	439	203	389	36	18,794
Wyoming	Dec.			110			19		88		24	37					1	5		23		307
	12 Mos.	1		1469	4		273		1158	2	513	594	3	17	1	3	1	89	19	330		4,477
Total	December, 1953	104	152	21393	240	211	6159	91	25013	28	4971	6284	27	458	8	26	235	968	915	1319	57	68,659
Total	December, 1952	140	177	25675	227	166	7684	81	16990	38	6514	6295	40	517	10	41	253	2194	652	2077	178	69,949
Total	12 Months, 1953	1713	2080	327960	3398	2569	82345	986	266027	359	82296	95404	747	6890	332	468	3498	22473	12261	17712	784	930,312
Total	12 Months,1952	1595	1752	272249	3420	2752	102129	941	179523	543	79612	92788	705	7138	236	541	3393	28985	11108	20356	2433	812,099

* Data from R. L. Polk & Co.

Modern Lab Offers Prooftesting Service

Continued from Page 81

tion. Detailed and controlled data is noted periodically during varying intervals of the testing procedure, Fig. 3.

After the field test on the vehicle, the engine or component is completely dismantled, cleaned, and critical wearing surfaces are checked for wear and damage, Fig. 4. Prior to a recent test for AP Parts, for example, all wearing parts, Fig. 5, were cleaned in solvent, rinsed in a volatile liquid, measured and weighed to assure that they were standard in every respect.

An engine dynamometer, Fig. 6, is used for checking engine output before and after tests requiring this sort of evaluation.

The laboratory staff consists of highly trained men in automotive design and engineering fields. Technicians are experienced in the operation of all testing facilities, are trained in the collecting and evaluating of information, while statisticians are skilled in establishing data on operation.

Cost of this service is somewhat less than the comparable mileage expense of the fleet due to the utilization of an income-producing fleet. Past tests have been set up on a basis of 12 to 15 cents per mile. Special assignments and trouble shooting are charged as separate projects. A time and cost estimate is made for each individual project. Individual programs, however, are tailor made to suit the ultimate goal of the sponsor and the extent of the information and data desired.

END

Please Resume Reading Page 82

The Air Starter

Continued from Page 89

used to power a 6000 gal gasoline transport. The air receiver used had a 3.82 cu ft capacity and the air pressure used was 120 psi. Fifteen starts were made, against full engine compression of 15.5 to 1, and the air pressure dropped from 120 psi to 70 psi. When the engine compression was released, five additional starts were made which dropped the pressure down to 50 psi. This test of 20 consecutive starts was made in about five to six min.

Using the 3.82 cu ft air tank as a basis for calculation, disregarding the volume of the air brake system tank and lines, and the small amount of air pumped by the compressor during the few seconds of starting, a total of 13 cu ft of free air was consumed in the first 15 starts against compression. For the additional five starts, five cu ft of free air was used.

In another test to check air loss on the same truck after the vehicle had been idle 12 hr, the air brake system dropped from 120 psi to 35 psi and the air starting system dropped from 120 psi to 112 psi.

Currently two models of air starters are being made, the size 9BM and the 20BM.

At 100 psi, the 9BM starter delivers nine hp, 45 lb ft torque and the starter pinion will have a speed of 2000 rpm. At the same air pressure, the 20BM starter has an output of 26 hp with a torque of 93 lb ft. This provides for a pinion speed of 2900 rpm.

END

Please Resume Reading Page 90

"Wagner Air Brakes

have cut our brake maintenance costs 50%..."

says: George E. Sawyer, FLEET SUPERVISOR
LEONARD BROS. TRANSFER & STORAGE CO., INC.
MIAMI, FLORIDA

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Wagner Electric Corporation
6400 Plymouth Avenue
St. Louis 14, Missouri

Gentlemen:

We, of Leonard Brothers Transfer and Storage Co., Inc., are proud of the excellent safety and performance record we have built up over the years. As a specialized common carrier, we are constantly called upon to haul many varied loads that many other fleets are not equipped to handle. It is natural, then, that we insist that every truck and tractor in our fleet be in perfect condition to render our customers fast, economical and efficient service at all times.

Wagner Air Brakes have played a very important part in our maintaining this outstanding record of achievement. We believe you will be interested in knowing that our fleet is 100% equipped with Wagner Air. We know that Wagner Air Brakes are easy to install, quiet in operation and help lengthen the service life of our vehicles. In fact, Wagner Air Brakes have cut our brake maintenance costs 50% and we have never had a single case of pressure failure with the Wagner Rotary Air Compressor.

It is for these reasons that at Leonard Brothers Transfer and Storage Co., Inc. we are continuing our policy of insisting that every vehicle we add to our fleet be equipped with Wagner Air Brakes—they truly give us the safety we demand in an air brake system.

Sincerely yours,
LEONARD BROS. TRANSFER & STORAGE CO., INC.
Geo E Sawyer
George E. Sawyer, Fleet Supervisor

GES:jp

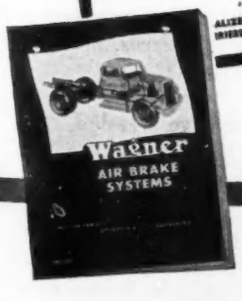
"SERVING FLORIDA AND THE NATION"

ALIZED IRIERS AND HEAVY HAULERS BETWEEN POINTS AND PLACES IN FLORIDA AND POINTS AND PLACES IN ALL U. S.

It's a fact! Wagner Air Brakes, on the average, require *less* maintenance and render *more* safe, trouble-free over-the-road performance than any other air brake system.

As proof of this dependability, take the word of George E. Sawyer, Fleet Supervisor of Leonard Bros. Transfer and Storage Co., Inc.,—he knows from experience that Wagner Air Brakes are his best buy in substantially lowering brake maintenance costs and in providing an adequate supply of air pressure at all times. In millions of miles of hauling over all types of roads, in all kinds of weather, Wagner Rotary Air Compressors have proven beyond any doubt that they provide exceptionally fast recovery of air pressure. This assures quick, safe, smooth stopping at all times.

If your fleet is not 100% equipped with Wagner Air Brakes, decide now to get the whole story. Wagner Branches in 25 principal cities, manned by trained air brake engineers, are ready to be of service to you... or write today for copy of Wagner Bulletin MU-201A. It gives full information on Wagner Air Brake Systems.



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Are We Insured for Murder?

Continued from Page 77

ance premiums by the various states should be specifically allocated for the improvement of police safety personnel and for the purchase of safety equipment for the control of traffic. While it is entirely possible that as much as 5 per cent of the premium may actually go for this purpose it is my belief that the over-all insurance cost to the assured will be reduced as a result of reduction in accident frequency. Furthermore, the deductibles collected from careless assureds will do much to reduce over-all cost to the careful driver.

The Reasons Why

HERE is why I suggest such a policy.

Our cars have gone from the proverbial "one horse shay" to a multi-horsepowered jet robot whose lethal failing is that the human beings charged with the responsibility of driving them have neither the incentive nor the skill properly to control them. Automobiles as they are wrecked can be replaced and are being replaced even faster than they disappear. Human beings, however, cannot be replaced.

Law enforcement has completely failed to keep step with the tremendous growth in our traffic problem. No community has at present at its disposal either enough modern equipment or the number of law enforcement officers required to do the job. Actually the number of the police and safety officers available today is, percentage-wise, far fewer than those available 25 years ago to control the "one-horse shay."

Only a few major highways are capable of carrying our modern transportation vehicles. Old highways of a most dangerous character are the rule rather than the exception in this country.

Antiquated safety laws and improper driving tests all contribute to accident frequency.

Most of these conditions could be corrected but they require a tremendous expenditure and, most important, they require a number of years adequately to complete.

Present automobile liability and property damage insurance policies are designed to protect the driver and, if you please, his right to drive carelessly. For a small premium they permit him to transfer practically all financial responsibility to a professional insurer for his acts. No longer must he fear in any financial way the results of careless driving. The most he could suffer in a loss would be the small collision deductible that he may be forced to carry. With respect to third party liability he has full protection.

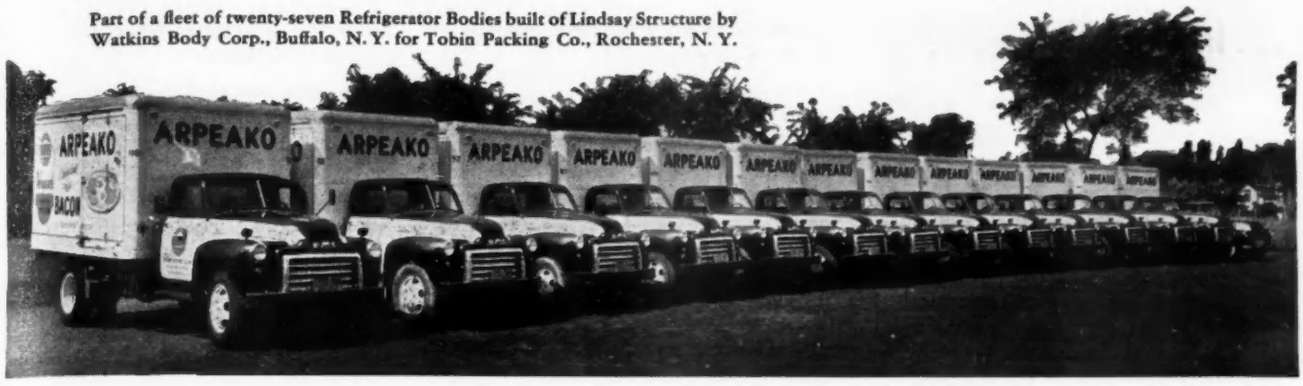
As a result of this complete coverage automobile accidents have risen rapidly. Higher premiums are not the answer to this kind of problem. We believe that the insurance business is a public service business and in most instances insurance coverage promotes the public welfare. But in the instance of automobile insurance and the manner in which we are now writing it we are creating hazards, not eliminating them.

Incentive Needed

IN a capitalistic society where free enterprise flourishes, the profit incentive is the principal motivating force that can be applied to a given problem. We must so change our method of writing automobile insurance as to ally ourselves on the same side as the

(TURN TO PAGE 102, PLEASE)

Part of a fleet of twenty-seven Refrigerator Bodies built of Lindsay Structure by Watkins Body Corp., Buffalo, N. Y. for Tobin Packing Co., Rochester, N. Y.



CUT DELIVERY COSTS 3 WAYS

with a FUNCTIONAL LS TRUCK BODY

A Lindsay Structure truck body built for your specific needs is a lifetime investment in dependable, low-cost operation. Here are three ways LS can help you cut delivery costs—

1. OPERATING EFFICIENCY—LS bodies are tailored to fit *your needs* . . . give you profitable payload . . . afford your drivers quick, easy handling of your particular type of cargo.

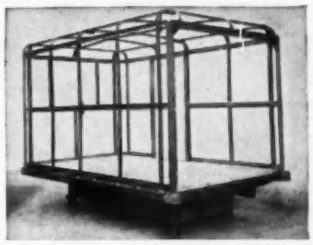
2. FAST REPAIR—If damaged, LS sections can be quickly replaced from the outside. Replacement parts are carried in stock by LS Body Builders located throughout the country.

3. LIFETIME SERVICE—Pre-tensed LS panels give bodies rugged durability . . . many LS bodies are now on their fourth or fifth chassis. The LS method also permits body changes if your needs alter.

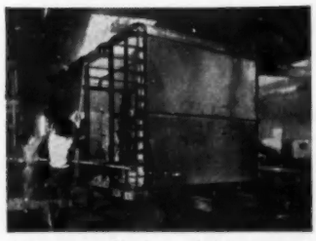
And, the LS method makes possible quick delivery on truck bodies tailor-made for you.

For years and years of efficient, low-cost operation—equip your next truck with a Lindsay Structure body in *steel or aluminum*...it will be one of the best investments you ever made.

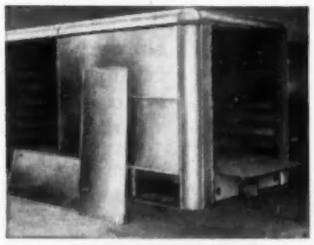
WRITE TODAY for a copy of the LS Truck Body folder—



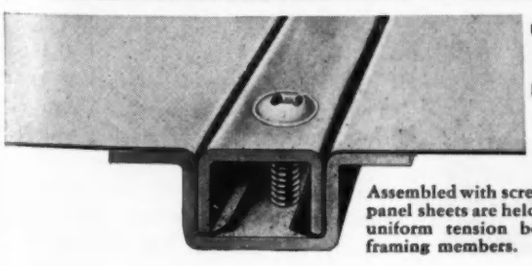
Sturdy framework is assembled from standardized LS compone nts to exact body size and style you need.



Accurately die-formed LS components make it possible to build tailored bodies by production line methods.



Pre-tensed LS panels give body rugged strength. If damaged, sections can be quickly replaced from outside.



Assembled with screws, the panel sheets are held under uniform tension between framing members.

LINDSAY LS STRUCTURE

Lindsay Structure, Inc.
5000 West Dempster St., Skokie, Illinois

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending

. . . Insured for Murder?

Continued from Page 100

profit motive. In other words, we must provide a profit incentive of sufficient importance to bring about a voluntary or self-imposed safety program by each driver.

The driver under present automobile insurance coverages has no incentive to be a good driver. We must make it financially unprofitable for the individual driver to drive unsafe equipment or to drive carelessly.

Various Plans

WHILE most of these truths have been given lip service up to now only six major experiments have been undertaken to put them into practical use, as follows: (1) Automobile Compensation Plan, better known as the Saskatchewan Plan, (2) Compulsory Automobile Insurance, (3) Unsatisfied Judgment Funds, (4) Impounding Acts, (5) Security-type Safety Responsibility Laws, and (6) Financial Responsibility Laws.

In addition to these plans are experimental merit rating schemes tried by various companies. For example, prior to World War II, the National Bureau adopted first a Merit Rating plan and then the famous "Safe Driver Reward Plan." Primarily, the plan did one thing and that was to return to the assured 15 per cent of his liability and property damage premium at the end of the policy year providing a loss had not been incurred under the contract.

The plan lasted approximately three or four years and was defeated due to two apparent causes: (1) the losses suffered by the companies, i.e., the decrease in accident frequency was so insufficient that the reduced losses were less than the reduced premium credits being given, and (2) a number of companies began to offer in competition, discounts not contingent on safe driving and at the beginning of the policy year in amounts only slightly less than those granted for safe driving. The incentive which was to have been created for safer driving was not sufficient to bring it about. It was rather wishful thinking to think that a saving of approximately $6.00 per year would deter a careless driver when fines of $25.00 to $50.00 did not.

New York State has adopted, effective November 1, 1952, a new merit rating plan which improves to some extent the original plans used in that it provides for debit rating. However, the maximum debit still does not provide in my opinion a sufficient incentive to reduce losses.

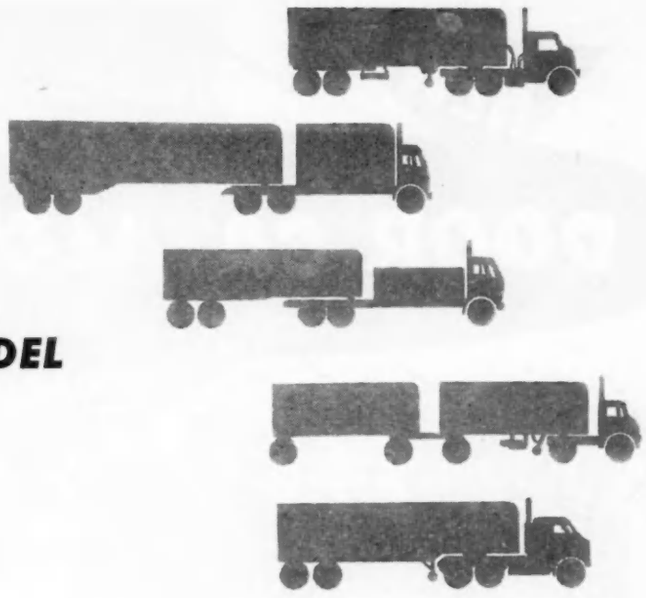
Compulsory Insurance

ONE current experiment, a principal one of its type, compulsory automobile insurance, still continues in the state of Massachusetts. It has brought about only one favorable result and has aggravated two most unfavorable conditions.

On the favorable side of the ledger is the fact that due to compulsory insurance a judgment is good in the state of Massachusetts against a driver for the limits provided by their law.

On the minus side of the ledger, however, two distinct failures are apparent: (1) accidents are increasing, and (2) many companies due to state regulations of rates have withdrawn from the writing of automobile insurance in the state of Massachusetts. The state has achieved financial responsibility in part but has done so at a tremendous increase in cost to the insuring public in premiums and victims.

(TURN TO PAGE 104, PLEASE)



WHITE-FREIGHTLINER'S NEW "SPACEMAKER" MODEL CUTS DEAD WEIGHT BY 2,000 LBS WITH ALCOA® ALUMINUM!

The "Spacemaker", newest member of the great White-Freightliner family, was designed to haul greater payloads on western highways. Weight of this model was reduced more than a ton by using Alcoa Aluminum throughout . . . with no sacrifice of strength, durability or safety!

Alcoa Aluminum Forged Disc Wheels make steering easier, reduce vibration, run cooler—and weigh up to 400 lbs less per tandem axle! Aluminum fuel tanks resist corrosion AND cut weight! Component body parts—of Alcoa Aluminum—contribute their share of the savings.

Freightliner's motives for using Alcoa Aluminum? *More payload* because aluminum cuts dead weight—*lower maintenance* because aluminum resists corrosion and simplifies repairs—*longer equipment life* because aluminum LASTS! Tractor and trailer builders who use Alcoa Aluminum as well as Alcoa's design and fabrication help, can give their customers the very best in aluminum. ALUMINUM COMPANY OF AMERICA, 1876-C Alcoa Building, Pittsburgh 19, Pennsylvania.

ALCOA ALUMINUM

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This 36-page booklet contains actual case histories and statistics on a variety of highway equipment constructed of aluminum. Send for your free copy TODAY!

. . . Insured for Murder?

Continued from Page 102

The driver has sloughed off his responsibility for his acts and the insurance companies have assumed it, so there is no longer a financial incentive for any driver in the state of Massachusetts to be careful. In the event the risk is an undesirable one from the insurance companies' point of view then the state can compel another insurance company to assume the risk of a careless driver.

Only in the most flagrant cases will the driver's license be revoked by the state. Automobile losses in Massachusetts are among the highest in the Union.

Financial Responsibility

ANOTHER of the plans which has been tried and which is now in effect in Missouri is best known under the name "Financial Responsibility Law." The principal difference between financial responsibility law approach and compulsory insurance lies in the word compulsory. In Massachusetts it is necessary to obtain insurance in order to drive. In states where a financial responsibility law prevails insurance is not a prerequisite to getting a license.

Only after a driver has an unsatisfied judgment levied against him need he show evidence of financial responsibility. The law might better be called "first chance law" as the driver gets the chance to "bump off" one person free and then if he is unable to satisfy the judgment against him he is prevented from driving a second time. The fact that the man injured upon the driver's first try may receive nothing does not seem particularly to bother either the insurance company or the legislators.

Unfortunately, drivers' rights seem always to be paramount to victims' lives. While it is possibly true that an unsatisfied judgment could remain a lien against the driver, nevertheless from a practical viewpoint it very seldom helps the victim and he is forced to settle for whatever pittance he may obtain.

Missouri law does not require evidence of financial responsibility until such time as an unsatisfied judgment has been incurred. States operated under the Safety Responsibility Law require evidence of financial responsibility within 10 days after the accident occurs in the form of insurance or collateral in the same amount.

END

Pease Resume Reading Page 78

4 Ways

YORK-HOOVER

COMMERCIAL TRUCK BODIES

will reduce your "per package" delivery costs...

1 Engineering the body for the specific transportation job to be done is the *first* and *most important* reason why York-Hoover Truck Bodies *save you money.*

2 The second reason is that York-Hoover Truck Bodies are specifically designed for ease in replacing major assemblies and parts, a factor that contributes to *lower maintenance costs for you.*

3 Lightweight construction with rugged durability reduces wear and tear on chassis and speeds up deliveries—the *third* reason why York-Hoover Truck Bodies are the *best buy for you.*

4 The *fourth* reason is that for 61 years, York-Hoover Truck Bodies have maintained a high record of *quality, performance,* and *cost-saving efficiency.*

Write TODAY for additional information on how York-Hoover Truck Bodies can give you FASTER, BETTER SERVICE.

York-Hoover Corporation

YORK, PENNSYLVANIA

Body Division

How to Get More Miles from a Diesel

Continued from Page 73

proper air-fuel ratios. Low air pressures and/or plugged air cleaners cause cylinder wash. This, however, probably ranks far behind improper injector and pump timing as a cause of trouble.

Injectors and pumps are designed to deliver the proper amount of fuel to the combustion chamber at a time when the compression is high enough to cause ignition. In most systems, a mechanically operated "rack" is used for part of this purpose. The "rack" is a notched push and pull lever which is geared to a shaft that rotates a spiral slot between the fuel inlet and outlet ports. The slot picks up a predetermined amount of fuel and discharges it to the nozzle chamber at the desired time. There the fuel is compressed by a plunger, again mechanically operated, and discharged into the combustion chamber when needed. To prevent the fuel from "dribbling" by the nozzle and into the combustion chamber prior to the time it is needed, a spring loaded check valve is used above the injector tip. Fuel pressure overcomes spring tension and allows fuel discharge. Consequently, the tension of this spring is vitally important in timing fuel injection.

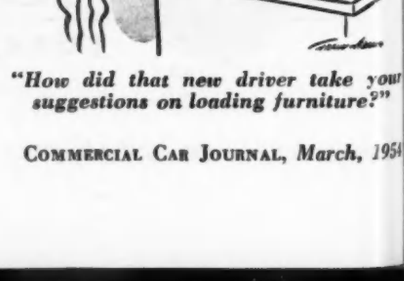
In most injector and pump systems, a separate "rack" is used for each cylinder. Since they are mechanically operated, it is vitally important that each rack be timed and calibrated with the proper tools. Any rack not properly adjusted will cause excessive wear in its companion cylinder. This also applies to the plunger which actually delivers the fuel charge to the cylinder. Being mechanically operated, each plunger must also be properly adjusted or premature fuel injection will result.

The spring loaded check valve is even more important in some systems. For example, injectors used with the 71 series GMC diesel engines depend on a spring approximately ⅛ in. by ¼ in. using 7 coils. This spring has no provision for adjustment of tension.

In the injector cycle, the injector plunger builds fuel pressure against the spring check valve. At approximately 650 lb pressure, the check valve opens and fuel is discharged into the combustion chamber. As the plunger releases its pressure, the check valve closes to hold remaining fuel in the nozzle chamber until the next plunger stroke. It is not unusual for injector check valve springs to weaken in a comparatively short time and allow fuel discharge at 200 lb or less. Thus, raw fuel enters the combustion chamber at times when compression is too low to accomplish ignition and "cylinder wash" results. Where alloyed pistons are used in certain other engines, these "dribbles" of raw fuel cause hot spots which burn through piston heads.

END

Please Resume Reading Page 74



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Genuine Ford Parts cut your fleet repair time . . . reduce "down time" . . . and that means more pay hours— It's just like having more cars!

Fleet operators find it profitable to standardize on Genuine Ford Parts for replacement. Your mechanics like them because they're so easy to put in. And you'll like them because they save costly installation time. Genuine Ford Parts are made to Ford's rigid engineering specifications set by the same men who built your Fords. Then, too, they are track-tested under gruelling conditions before being approved for manufacture. That's why you can be sure they're built to take it—whatever your job is. They're readily available, too . . . through 6400 Ford dealers. And remember that Genuine Ford Parts keep costs down because they're made right—to fit right—to last longer.

GENUINE Ford PARTS

TWO FORD PARTS THAT'LL SAVE YOU TIME AND MONEY!

Ford oil filter elements of specially designed filtering materials, with millions of tiny pores, screen out harmful oil contaminants quickly and thoroughly. Yet oil flows freely for proper engine lubrication and useful additives are retained.

Ford batteries are cycled from full charge to discharge hundreds of times for dependable long life. Your dealer can recommend the Ford battery to fit the particular requirements of your Fords. Remember, too, each battery carries a liberal Warranty.

Keep your fleet on its feet

Cooperation Sparks Tose Safety Program

Continued from Page 94

other reports on the case and decides whether the driver was responsible or not. If it is decided that the accident was chargeable, the board agrees on disciplinary action, short of actually firing the man, and also decides what error the man made that resulted in the mishap.

In the case of an accident which the driver claims was due to the condition of the vehicle, a check with our maintenance department may be necessary to determine responsibility. In these cases, if the driver claims that the accident was caused by a mechanical defect which he reported the previous day we need only look up his vehicle condition report for that day. If the item is noted on the report, the accident is considered non-chargeable.

Once a decision has been reached, the driver is again called before the board and told of the verdict. In the case of a chargeable accident the board makes a point of explaining to the driver the error which he made and of convincing him that his error was directly responsible for the accident, at times hinging its disciplinary action to the driver's attitude to this comment.

Penalties for accidents handed down by the committee may range from temporary demotion to a helper's job or terminal work, to actual suspension from the job for a fixed period. Accidents which are serious enough to warrant dismissal of the driver are turned over by the committee for management-union negotiation.

The demotion may last for as long as a year. During this time the board may call the driver in for discussions to determine his attitude, and if the hearing is satisfactory may return him to regular duty.

Safe Vehicle

IN ADDITION to its disciplinary role the committee has the right to act on a driver's behalf if the question arises as to the safeness of a truck. For example, if a driver feels that his truck is not in safe operating condition when he inspects it prior to taking it on the road, and the maintenance department disagrees with him, the driver may take his complaint to the committee which then either backs up his refusal to take the vehicle, or ensures that the necessary adjustments are made. Drivers are also permitted and encouraged to make suggestions to the committee to help improve the safety record.

While only drivers involved in accidents have to appear at the meeting of the accident review board, all drivers are notified of the results of these sessions through mimeographed reports. Each report contains the driver's testimony and the decision of the board as to whether the accident was chargeable or nonchargeable. We define a chargeable accident as "any contact with any object caused by our driver unless our vehicle was stationary." Backing accidents are usually considered as automatically chargeable unless the driver can convince the board that he has followed all the company rules for avoiding this kind of mishap.

Drivers show keen interest in the reports, particularly if they have previously appeared before the board and

(TURN TO PAGE 110, PLEASE)

"Nothing but T5X..."

Clinton Fisch,
Arcata, California,
log truck operator

"Nothing but T5X has ever gone into crankcases of our present 10-truck fleet.

"Some of our hauls here in the fir and redwood country of Northern California are over adverse grades up to 13%... favorable grades run as much as 22%, but we believe they are just as tough, or worse, on the engines of heavily loaded rigs.

"Using Union's T5X, which we change every 60 hours along with the filter, we've never had a bearing failure due to faulty lubrication... and we run at least 2500 hours between engine overhauls. In fact, we ran one truck for three years before it required its first overhaul."

You're bound to profit by using this amazing *purple* oil in your rigs, too. Call your nearest Union Oil representative for prompt delivery of T5X.

UNION OIL 76 COMPANY

OF CALIFORNIA

Los Angeles: *Union Oil Bldg.* • **New York:** *45 Rockefeller Plaza* • **Chicago:** *1612 Bankers Bldg.* • **New Orleans:** *644 National Bank of Commerce Bldg.* • **Atlanta:** *401 Atlanta National Bldg.* • **Kansas City, Mo.:** *921 Rialto Bldg.*

Tose Safety Program

Continued from Page 108

were charged with an accident. For this reason it is necessary that all the facts on which the board based its decision be given in the report to avoid protests from drivers who may feel, for example, that they were charged with an accident while another man under similar conditions was not charged. The reports also serve for all drivers as timely reminders of the hazards being encountered and can also carry announcements to the drivers.

Driver Selection

CAREFUL selection and training of new men also plays an important part in our program. We learned from experience prior to setting up the program that most of the accidents suffered by our fleet involved new men. So we decided early in the program to ensure that our men were properly broken in before being assigned to full duty.

Most new men come to us by way of the local office of the state employment service. We have been fortunate to receive the cooperation of the staff at this office, so that obviously unsuitable men are not sent to us as prospects. When a new man is hired, he is first put on a month's probation and until this period ends he does not become a member of the union.

The driver's union has contributed much to the success of the program. One reason for this is that union officials agree with us that safe driving should be logically expected of drivers as a term of their employment. As a matter of fact, there have been times when the union representatives on our accident review board have been inclined to deal more harshly with drivers involved in accidents than have our management representatives.

Unless a new man has had previous driving experience before joining our firm, he is likely to start out as a platform worker on the night shift. He may be assigned to this work for approximately a year. Then he is promoted to the job of day helper on one of our units. Later he is assigned to driving one of our local pick-up trucks on city service in either New York, Newark, or Philadelphia, and after approximately six months of this work he is generally ready for a two week training period on a tractor-trailer on a regular route with one of our experienced drivers. All told, it may take between two and three years before a new man without previous experience qualifies as a tractor-trailer driver for our company.

Other Features

IN ADDITION to the reports we make frequent use of safety posters and bulletins from such sources as the American Trucking Assns., the Pennsylvania Motor Truck Assn., National Safety Council and our insurance company. These are either posted on the drivers' bulletin board, or if sufficient copies are available are distributed to the men.

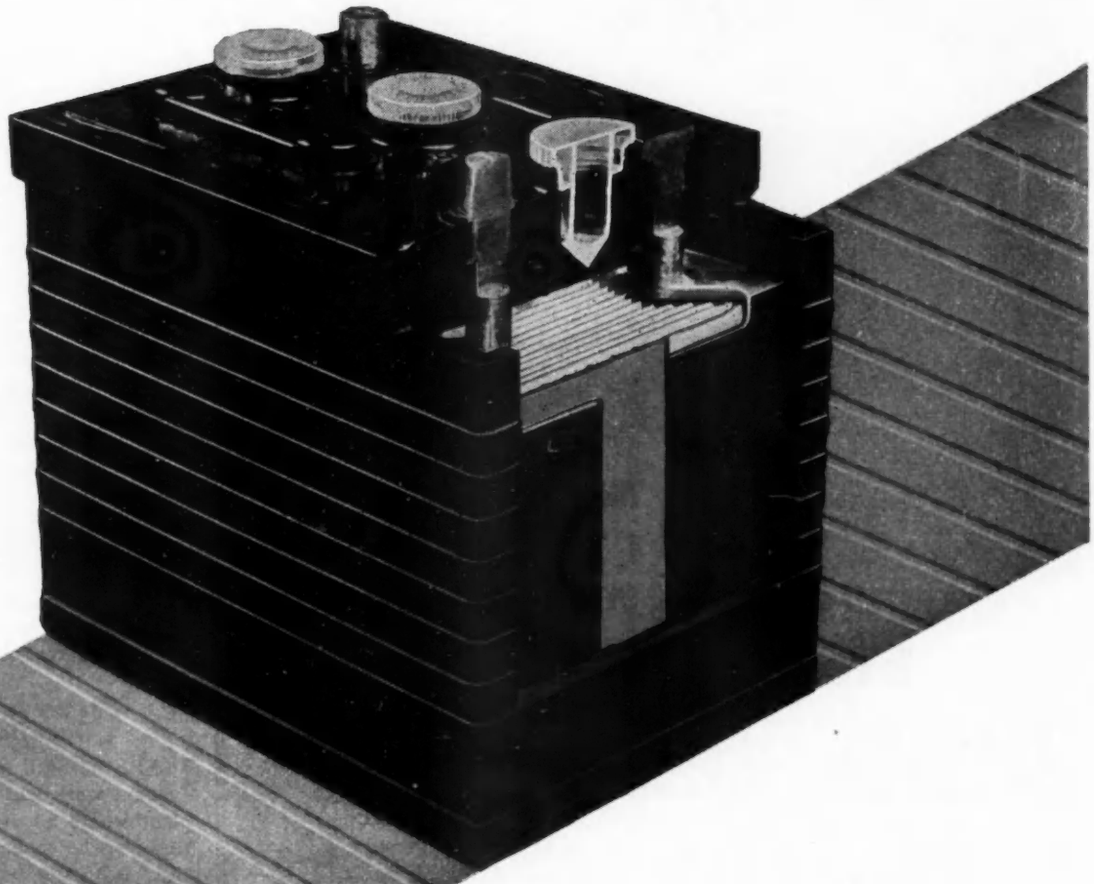
We find that driver training films are also useful as teaching aids, and in selecting subjects we attempt to obtain films which demonstrate conditions or hazards which are causing the drivers trouble at the time the films are shown. Discussion then results on how the ideas presented in the film can be applied to our own particular problems.

Finally, we find that close cooperation with our local insurance agent pays off. Our agent has been a great help, both in investigating the causes of accidents and in promoting the safety plan among the drivers.

END

Please Resume Reading Page 96

More mileage per battery dollar



with

U. S. Peerless Rubber Separators!

Month after month, mile by mile, Peerless' physical, chemical and electrical properties guarantee a better-performing, longer-lasting, more economical battery. For example:

(1)—Peerless is unaffected by overcharging, heat, battery acid or plate pressures. Peerless is so strong that warped or buckled plates can't hurt it.

(2)—Peerless has high porosity. So what? So the operator gets 20% faster cranking speed because of faster circulation of acid.

(3)—Peerless delivers improved starting performance in cold weather, delivering up to 10% more power when needed most—plus extra protection in hot weather. And Peerless cuts costs because its low electrical resistance requires lower charge currents.

Write to us for your free copy of informative booklet. Use the coupon at the right.

Battery Separator Sales
United States Rubber Company
Rockefeller Center, N. Y. 20, N. Y.

Gentlemen:
Please send me my free copy of booklet on U.S. Peerless Rubber Separators.

Name_____

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City_____

Zone_____ **State**_____

UNITED STATES RUBBER COMPANY

U.S. RUBBER

Electrical Wire and Cable Department • Rockefeller Center, New York 20, N. Y.

Special Body . . .

Continued from Page 67

Built to Ivers' specifications, Crown used aluminum in the cab but the frame, outriggers, transmission cases and other heavy stress portions are made of steel. The truck body was built by Trailmobile and is aluminum.

Powered by the special pancake type Cummins diesel, the rig operates through a Model 10-R-950C Fuller transmission. The rear end is a Model 3458 Timken dual drive with a 6:1 axle ratio.

The cab and the radiator are stock items with Crown. All other units in the rig, however, are interchangeable with the Peterbilt and Kenworth trucks that Ivers operates. These units include the transmission, rear-end, drive line, front axle, wheels and tires.

Although custom built, Ivers reports that his special rig delivers "for the same price as a comparable truck and trailer with similar bodies." His boxes are insulated and Ivers put on considerable extra chrome following delivery.

Does Body Work

IVERS does all of his own body and paint work and has a tire shop and plant where he overhauls his engines. However, he sends out his fuel pumps and has his line boring and Magnafluxing done outside his own shop.

"Having the engine under-slung beneath the truck body is a great advantage," Ivers declared. "It's easier to get to for repairs, both from a pit and from the side of the truck in the event of an emergency repair while on the road and away from a pit.

Ivers is aware of the value of a certain amount of showmanship and his "emergency road service" station wagon is a familiar sight on the highways out of Stockton. A Chevrolet, this wagon carries a local radio and is equipped for all kinds of roadside emergencies. It has an acetylene torch, oxygen tank, flares, fire extinguishers, tool chest, first aid equipment and a recording techometer on the instrument panel.

In addition, he has fixed up a Crosley truck into a "miniature" truck. He calls it his wife's "personal truck" and has given it the number 0-½, or "less than nothing." He put a Crown emblem on the front of the radiator and uses it as an excellent, albeit a trifle expensive, advertising "gadget."

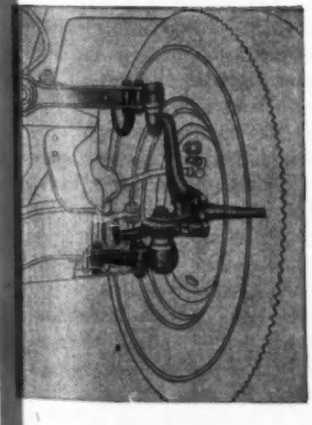
END

Please Resume Reading Page 68

This Thompson "Engineered Steering" development is a good example of Thompson cooperation with the automotive industry for more than 50 years.

1ST 2ND 3RD and 4TH PLACE WINNERS OF WORLD'S TOUGHEST ROAD RACE

were Lincolns, equipped with Thompson Front Suspension Ball Joints



IN fact, 7 Lincolns were in the list of the 10 prize winners in the recent annual Mexican Pan-American stock car race and all were equipped with Thompson Front Suspension Ball Joints.

This severest automotive test in the world . . . 1,912 miles over every type of roadway . . . has proved beyond the shadow of a doubt that Thompson's famous Front Suspension Ball Joints provide the easiest handling and steering control in automotive history.

In addition, Thompson's ball joints reduce lubrication points from 12 to 4 . . . eliminate front end suspension bind . . . create new space for wider modern engine design . . . and increase service life *many times over.*

Thompson's front suspension ball joints, used successfully on Lincolns for the past two years, are now found on the latest Mercury and Ford models.

If you have a steering problem you'd like to talk over with Thompson's skilled and experienced engineers, just write, phone or wire Thompson Products, Inc., Michigan Plant, 7881 Conant Avenue, Detroit 11, Michigan.

You can count on

Thompson Products

MICHIGAN PLANT

DETROIT • FRUITPORT • PORTLAND

Precision Maintenance Pays Dividends

Continued from Page 70

Cleanliness Essential

CLEANLINESS is, of course, one of the most important considerations in injector work. The injector room is dust-proofed, clean and scientifically ventilated. The cleaning tank is our own idea designed to help the rebuild man keep injector parts separated. Twelve compartments of the basket enable him to lay parts on the screen and to direct the solvent over them through an articulated nozzle. We feel that this arrangement has played a large part in the amazingly high injector mileages we turn up.

Fuel Pump Service

WE STRESS the importance of precision service of the fuel pump in our maintenance program. Both performance and economy of operation can be affected when an insufficient supply of fuel reaches the injectors. The pumps are rebuilt at the bench and then tested carefully on a special machine built up for this purpose. This consists of an electric motor geared to a drive fork which is installed on a mounting bracket. A panel holds a pressure gage and control for varying motor speed. Fuel is supplied from a centrally located tank and lines are connected as shown. A sight gage at the discharge line provides for a check of output at various speeds. Check is made for pressure readings at 800 rpm in a manner similar to that specified by the manufacturer.

Advantage, however, of this bench tester is obvious. Pumps can be tested quickly and conveniently and tagged for service. When defects are noted, the unit can be serviced without loss of installation time.

Air Cleaner Service

ANOTHER important consideration in attaining long engine life is proper care of the air cleaners. In order to save time and assure frequent attention to cleaner service we developed a machine to do the job better. Now we are assured that the air cleaners are getting sufficient attention and have clean units immediately available. This machine not only saves time but does a better job of getting solvent through the element. As a result we are enjoying high fuel mileages that go with this attention. Air cleaners are changed every 3000 miles.

The machine consists of a solvent pump which is nothing more than a regular coach water pump equipped with neoprene seals, a manifold for directing the solvent up and down through the cleaner, racks for holding them.

The manifold is made from a sheet steel oblong box frame with an opening in the center between the cleaners for the inlet and two openings cut into the bottom for directing the solvent into the cleaner. Cleaners are mounted so that the solvent can flow through without restriction and back into the receiving tank. After they have been allowed to stand this way for a period of approximately 10 min., they are set on the rack for draining.

It is not the purpose of this article to outline in detail any new or any short cuts to better fuel and oil mileage. It is intended rather, to show that close attention to service and testing of the various units of the fuel system will pay off in improved operating economy. The bonus comes with fewer road failures and longer lived components.

END

Please Resume Reading Page 71

PTC Meeting Raps Reciprocity Mess

Continued from Page 71

registration tax structures, it was resolved, and place unreasonable burdens on record-keeping and reporting.

Piggy-Back

THE Council eyed the "piggy-back" rail-trailer operation with an open mind—set up a committee to enlist the best technical brains from both the trucking and the railroad industry to study the question. This exhaustive study will attempt to determine whether piggy-back operation can offer any practical advantages in the delivery of goods for the private carrier. Findings are to be submitted within a six months period.

In line with this, a railroad speaker, R. G. Hawkinson, freight traffic manager of the Chicago and Great Western Railroad, gave a prospectus at a special session. He outlined in detail his company's trailer-on-flatcar service between Chicago and St. Paul, initiated in 1936 and now used by 41 common carriers. He said that the service had "taken a good many trucks off the highways" and had resulted in a "very profitable undertaking" by both railroads and carriers.

A resolution of the Council urged the Interstate Commerce Commission to make so-called "piggy-back" service freely available to both for-hire and private truck owners.

Manufacturer Meets Consumer

ONE of the technical features of the meeting was the Manufacturer Meets Consumer session, a panel discussion that is becoming proverbial with the Council meetings. This year Robert Cass of White acting as moderator, steered the ten-man panel through a fast, fact-developing, thought-provoking two hours. At this time:

R. C. Wallace, of Diamond T discussed "What's new" in the way of transportation equipment. He mentioned new cabs, new engines, tandem steering axles, new engineering features designed to improve operating efficiency and reduce trucking costs. He did not favor, however, the automatic transmission for heavy-duty vehicles. Suggested instead that a more flexible type positive transmission with better controls be considered.

Mr. Wallace mentioned the improvements in mufflers that have come about recently, but warned that we cannot expect the older vehicles to run as quietly as the new models. He said the industry was ready to abandon the attempt to develop a reliable instrument for measuring noise levels due to the fact that prejudice creeps into any decision with any jury. He suggested that as the newer, better engineered vehicles replaced the older ones on our highways, the problem would become less acute.

C. W. Elder, of Ford described new accessories for driver comfort and for safety available today; suggested that such equipment was well worth careful consideration by fleetmen in view of the savings which could be accumulated in better road time, safe operation and improved driver morale.

R. E. Jeffry, of Shell Oil, took up the subject of oil and fuel additives; recommended a choice of heavy-duty oil as a measure of eliminating crankcase deposits and carbon formations on the valves. Better fuels are on the way,

(TURN TO PAGE 118, PLEASE)

PTC Meeting

Continued from Page 117

he said, and you can be assured that fuel suppliers are devoting a great deal of time and money towards improving gasoline for future requirements.

J. J. Black of Trailmobile covered the subject of body design and described new lightweight construction materials being used in the industry. He recommended more standardization of such dimensions as floor height, body lights, etc., indicated that SAE studies were progressing on many such industry standards.

Braking Problems

KARL RICHARDS, of Automobile Manufacturers Assn., sounded a warning note on the subject of brakes when he announced that the brake report conducted by the Bureau of Public Roads would be released shortly. As many operators know, some of the data may damage the trucking industry when released to individuals and to state legislators who are unfriendly to the trucking industry.

Mr. Richards suggested that truckmen be prepared to offer specific data in the form of braking requirements to guide legislators in any new outburst of legislation which might result.

Safety Awards

THE following fleets were honored with safety awards made by James Mann, secretary of the association:

Williamson Dickie Mfg. Co.
Fort Worth, Texas

International Platex Corp.
Dover, Delaware

Colonial Stores, Inc.
Raleigh, North Carolina

Standard Brands, Inc.
New York, New York

The National Plastic Products Co.
Odenton, Md.

Albers Super Markets, Inc.
Cincinnati, Ohio

C. Schmidt & Sons
Philadelphia, Pa.

P. Ballantine & Sons
Newark, New Jersey

Alton Box Board Co.
Alton, Illinois

Esso Standard Oil Co.
Richmond, Va.

Lloyd A. Fry Roofing Co.
Summit, Illinois

National Cylinder Gas Co.
Chicago, Illinois

Colonial Stores, Inc.
Norfolk, Va.

The Ohio Oil Co.
Findlay, Ohio

Burlington Mills Corp.
Burlington, N. C.

Shell Oil Co.
Baltimore 18, Md.

Esso Standard Oil Co.
Baltimore 3, Md.

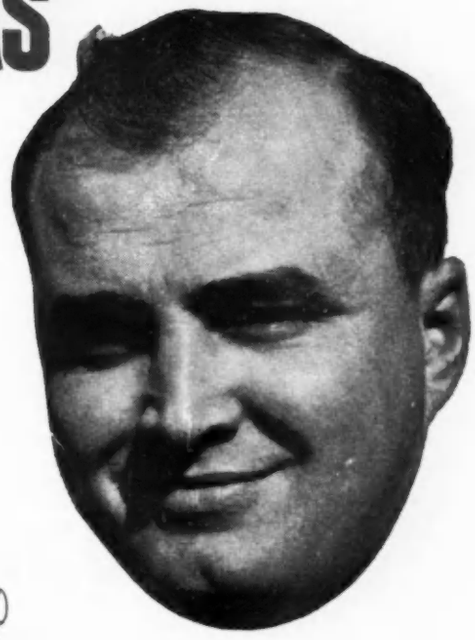
Officers Re-elected

THE following officers were re-elected for another year: President, A. B. Gorman, Esso Standard Oil Company, New York City; Eastern Vice-President, Charles Ehrenberger, Standard Brands, Inc., New York City; Southeastern Vice-President, John J. Riley, American Bottlers of Carbonated Beverages, Washington, D. C.; Central Vice-President, R. B. Rodgers, Standard Oil Company of Indiana, Chicago, Illinois; Treasurer, Robert C. Hibben, International Assn. of Ice Cream Manufacturers, Washington, D. C.

END

Please Resume Reading Page 72

"SIMPLE ECONOMICS MADE ME CONVERT TO PHILGAS"



FRANK NIGRO
CITY CAB COMPANY,
COUNCIL BLUFFS, IOWA

City Cab Company decided to try Philgas* as a motor fuel in two of its "Chevvy" taxicabs in May, 1953. The results of the test can be shown in one statement of fact. The entire fleet of City Cab Company is to be powered by Philgas. The president of the company, Frank Nigro, gets right to the point in telling why: "Simple economics made me convert to Philgas. I save two ways. Fuel costs are lower, maintenance is less. Take my word for it, cabs operate more efficiently—more economically on Philgas."

This is another example of how fleet owners are saving money with Philgas. This power-packed motor fuel has proved successful in trucks, buses, construction equipment, cabs—wherever internal combustion power is needed.

Find out how you can get more efficient, more economical operation in your fleet with Philgas. Write for details.

CHECK THESE PHILGAS ADVANTAGES

- ✓ **Burns completely with no oil dilution—less contamination.**
- ✓ **Low fuel cost—lowers operating costs.**
- ✓ **Lower cylinder wear—no cylinder wall washing.**
- ✓ **Longer ring and valve life.**
- ✓ **Cuts maintenance costs—thousands of miles more before overhaul.**
- ✓ **No smelly fumes or exhaust smoke.**

Put Philgas to work for you. You can use it to advantage no matter what type of fleet you operate. Write for complete details.

Phillips 66 Philgas
THE ALL-PURPOSE FUEL

*Philgas is the Phillips Petroleum Company trademark for its high quality LP-Gas or bottled gas (butane, propane).

PHILLIPS PETROLEUM COMPANY

SALES DEPARTMENT, *Bartlesville, Oklahoma*

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AMARILLO, TEX.—*First Nat'l Bank Bldg.*
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KANSAS CITY, MO.—*500 West 39th St.*
MINNEAPOLIS, MINN.—*212 Sixth St. South*
NEW YORK, N. Y.—*80 Broadway*
OMAHA, NEB.—*WOW Building*
RALEIGH, N. C.—*16 W. Martin St.*
ST. LOUIS, MO.—*4251 Lindell Blvd.*
TAMPA, FLA.—*1506 South Dale Mabry*
TULSA, OKLA.—*1708 Utica Square*
WICHITA, KAN.—*501 KFH Building*

Inert-Gas Welding

Continued from Page 8

duced into the weld much in the same manner as in oxyacetylene welding. Accessory elements are also available for the automatic introduction of filler wire into the arc in manual as well as in machine and automatic operations.

Inert-gas metal arc process which uses a consumable electrode, is particularly valuable in welding aluminum of thicknesses above ⅛-in.

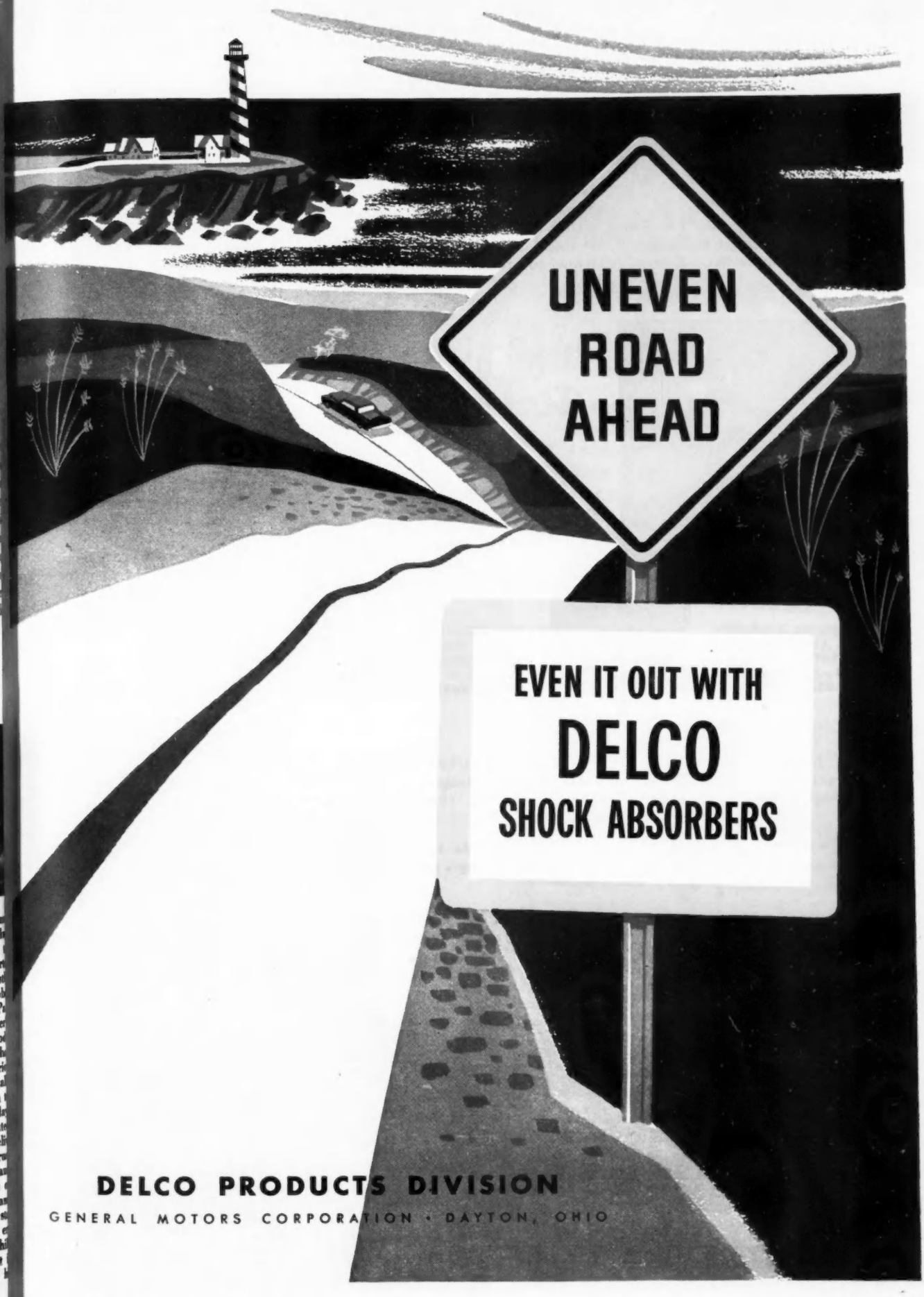
Welding speeds available with Aircomatic are far greater than those obtained with the tungsten arc. The process employs a continuously fed bare-wire electrode in coil form operating within the inert-gas shield in manual, machine, and fully automatic applications.

The shielding gas not only protects the weld metal but the heated electrode wire, so that high current densities can be employed without making the electrode too hot. These high current densities provide the characteristic high deposition rates which mean high welding speed either in terms of pounds of metal deposited or inches of joint per unit of working time. They provide

(TURN TO PAGE 122. PLEASE)

50 Windows, 10 Doors

A new truck body designed to assure installation and repair crews a full day of work has its interior designed to carry enough material and parts safely and orderly, to eliminate costly return trips to the plant between jobs. Used by Rusco Co., Bethlehem, Pa., it is basically a 10 ft "Merchandiser" body built by Boyertown Auto Body Works, Boyertown, Pa. Rusco has added aluminum racks to the interior of this unit to carry, ready to install, 50 windows and 10 doors, enough to outfit 4 average homes in one day. This arrangement has also eliminated damage to the products during delivery. A feature of the body construction is the fact that shelving and racks can be secured to the sides of the body as well as the ceiling and floor for additional strength and stability. The full square interior enables workmen to stand erect while loading and unloading. The unit is built of light-weight heavy duty high tensile steel.


UNEVEN
ROAD
AHEAD
EVEN IT OUT WITH
DELCO
SHOCK ABSORBERS
DELCO PRODUCTS DIVISION
GENERAL MOTORS CORPORATION • DAYTON, OHIO

Inert-Gas Welding

Continued from Page 120

the spray-type metal transfer which is essential to vertical and overhead position welding. The high current densities also provide excellent penetration in all positions.

Approximate Cost

BOTH inert-gas processes can be used in any fleet shop building or repairing aluminum bodies. Cost of the equipment can soon be written off where volume work is performed, in terms of time and labor saving over riveting or other methods of fabrication. Where approximately 50 bodies a year are repaired by manual operations the operator would need a single Aircomatic unit, No. 3 gun, a motor generator set, a flow meter regulator and hoses and cables. Approximate cost of this equipment would run $1800. This is used for welding plate aluminum. For sheet aluminum a manual Heliweld holder using an AC transformer to provide continuous high frequency would be used. This equipment would cost approximately $800.

Procedure manuals are available for quick training of men to handle the equipment. It is said, however, that welders can pick up the procedure in a matter of hours. Field service men from the manufacturer provide close contact with the fleet until men become adept in using this equipment.

Illustrations on pages 86 and 87 show how equipment is used in the building of Gramm trailers at Delphos, Ohio. The inert-gas-shielded tungsten arc is used on aluminum sub assemblies such as the framework for air ducts in refrigerated units.

Originally at this plant the floors were welded in position in the trailers with coated stick electrodes. When these welds failed to withstand the severe service conditions to which they were subjected, the floors were Heliwelded. Despite improved results, the subsequent application of the Aircomatic process not only reduced warpage to a minimum but tripled production because of welding speed and completely eliminated failures in the field. The floors are now fabricated as a subassembly using the Aircomatic gun semi-automatically in a fixture. On this particular application a mixture of 50-50 helium and argon shielding gas produces sound, leak-proof welds. The Aircomatic process was used to weld the rear door frames as well as the roof rail to the vertical shroud. A shielding mixture of 90-10 argon and helium is used on these members. Much of the welding is done in vertical and overhead positions. Rub rails are Heliwelded to the vertical shrouds.

Comparative cost analysis between welding and riveting indicates that labor costs can be cut roughly 50 per cent. Behind lower labor costs lies the factor of fast production. Fast production, in turn, is related not only to the fast deposition rates of this process but to the easy maneuverability of the manual gun and the ability of the process to perform good welds in all positions.

END

Please Resume Reading Page 88

PIE's New Trailers Increase Capacity by 400 Cu Ft

PURCHASE of $4,000,000 worth of trailers by Pacific Intermountain Express, Oakland, Calif., has been announced. Involved in the transaction are 476 units—370 regular closed van type and 106 mechanically refrigerated trailers.

The new fleet will replace all closed vans now in use in PIE's line-haul operations, and add 106 refrigerated units to mark the company's entry into the volume reefer business. No change is contemplated at present in the number or design of the company's current fleet of flatbed trailers, city pickups or other mobile equipment.

Chief aim of the replacement program is to increase the cube capacity without adding to the length, height or width of trailers now in use.

Purchase contracts have been signed with three trailer manufacturers. Fruehauf Trailer Co., Detroit, will construct 303 units, Brown Trailers, Inc., Spokane, Wash., 150 and the Strick Co., Philadelphia, 23. Delivery will start about April 1 with the final new trailer scheduled to be in service by the end of June.

Greater Capacity

THE new unrefrigerated 35-ft vans will have a 2300 cu ft capacity as compared to the 1900 of present units. The new refrigerated trailers will feature a 1980 cu ft capacity. All units have been designed to meet specifications called for by PIE executives and engineers.

The added capacity is the result of two major design changes. With rigid legal restrictions as to the height and width, the chief move in obtaining more cube in the new trailers was to lower the floor. This was mainly accomplished by going to smaller wheels—the new unit using 9.00 x 20 tires instead of the present 10.00 x 22. Further lowering of the floor resulted from replacing the conventional springs with General Tire and Rubber's "Air Ride" air suspension. The other way in which greater capacity was accomplished was to decrease the thickness of walls, roof, and floor while still maintaining structural strength.

Another feature of the new trailer is a sliding running gear. The tandem axle shifts fore or aft on an 8-ft track, to allow conformity with various state laws as regards spread of loads to meet weight requirements. The complete running gear assembly may be removed and is completely interchangeable with any other trailer van body in the fleet.

The new refrigerated trailers are the result of months of research and experiment. Insulation in the new mechanical reefers will be 4 in. in the top and walls and 6 in. in the floors.

Besides the increased cube in the new trailers, PIE expects revenue to be increased because the new equipment will weigh less than present units, thus allowing more pay load to be carried and still stay within legal weight limits.

Another part of the program is still under study. Five tractor power prototypes are undergoing over-the-road tests at the present time. When specifications for a new power unit are ultimately determined, orders will be placed for the new tractor and it will go into service east of Denver.

Fuel Injector

Continued from Page 85

vapor lock. The fuel is then fed under ¾ lb pressure through the metering system to the "swirl" chamber of the nozzle, where it is swirled and atomized by high velocity air developed by the pressure drop between the atmosphere and manifold.

This emulsion comes out of the nozzle in the form of a circular spray through which the air rushing in from the air filter must pass, thereby feeding the manifold with a homogenized mass of fuel and air.

Since pressure feed replaces suction feed, atomized gas is always fed to the engine even at near zero vacuum, thus enabling the engine to pull at low speed while in high gear.

The air valve is spring-activated and not directly connected to the throttle. As the air valve measures the air and also actuates the fuel metering system, the air to fuel ratio is under rigid control at all times in accordance with engine requirements for all operating conditions, such as idling, hill climbing, cruising or acceleration.

Installation only requires replacing the carburetor and advancing the spark, after checking the ignition and fuel pump supply. The Meteor 100 is presently available for replacing all single barrel carburetors up to 1½ in. throat diameter. It is expected that double barrel models will be available in the near future.

END

Please Resume Reading Page 86

Maryland Driver of the Year

Sterling F. Brough, chairman of Maryland Motor Truck Assn. Highway Safety Committee, awards the group's Driver-of-the-Year trophy to William K. Heiser, driver for the Davidson Transfer & Storage Co., Baltimore, Md. Heiser in 1953 was grand champion of the Maryland Truck Roadeo for the third time in as many years.

EATON FREE-VALVES

are Free to Rotate in *BOTH* Directions!

Result:

Valves last many times longer. Performance records prove it!

Eaton Free-Valves are genuinely "free"—free to turn at random, in either direction, during a major portion of the lift-cycle.

This free-floating action wipes stem and seat free of deposits; keeps a film of oil on stem and guide surfaces. Scuffing is prevented, wear is reduced. Hot-spots due to local leakage are eliminated.

Eaton Free-Valves can be applied to practically any engine without design changes. Our engineers will be glad to discuss Eaton Free-Valves with you.

EATON

EATON MANUFACTURING COMPANY

General Offices: CLEVELAND, OHIO

VALVE DIVISION: 9771 FRENCH ROAD • DETROIT 13, MICHIGAN

EATON PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

Reciprocity Crisis, Threat to Truck Use

Continued from Page 65

carriers will recognize that the conference's summary applies to them with equal force. Says the bulletin, in part:

"First of all, what do New York-modeled ton-mile taxes and Ohio-patterned axle-mile taxes mean to you? They mean only increased transportation and distribution costs all along the line. And private carriers, in their dual capacity as shippers and truck operators, get it from all directions.

"As shippers you pay millions of dollars annually in added transportation and distribution costs. Certainly the for-hire motor carriers don't absorb the heavy burdens incident to ton-mile and axle-mile imposts. These taxes are quickly reflected in higher transportation rates imposed upon you—the shipper. As manufacturers you pay twice—a ton-mile tax on all incoming materials and a ton-mile tax on all outbound shipments. As farmers, the farther away the more you pay. Everything a farmer buys pays a higher tax because of distance. Everything a farmer grows pays a higher tax, too, on its way to market.

"Then, as truck operators, industry and agriculture get hit again. There was a time when state legislatures 'went easy' on private carriers, exempting them from imposts which were forced down the throats of for-hire operators. But such is no longer the case. The New York and Ohio third structure taxes apply equally to all types of trucks. And the Virginia Commission on Highway Matters appears to be out specifically to 'fix' the private trucker."

Uniform Tax

STARTING point for discussion at the Chicago meeting of ATA's special reciprocity committee probably will be a review of the association's position on reciprocity. This was most recently given in a statement adopted by ATA's executive committee and sent to the January governors' meeting.

ATA's stand is:

"Any motor vehicle properly licensed in one state and complying with the laws thereof shall have the right to operate in interstate commerce in any other state without acquiring additional license plates or paying any additional fees or taxes. Reciprocity shall be full, complete and automatic."

The committee's statement to the governors adds, ". . . We do stand by the premise that commodity-carrying vehicles should be permitted to flow as freely across state lines as do passenger automobiles. However, in the matter of fair distribution to all states of the tax revenue accruing from the trucking industry we are just as objective.

"We feel that each state is entitled to its fair share of such tax revenues. We are willing at all times to participate in discussions leading to a solution of this problem if it exists.

"When the amount of taxation which should be paid by the trucking industry is determined on a fair and equitable basis we will pledge our wholehearted cooperation in working out, in conjunction with the authorities of any and all states, a fair allocation formula to provide these revenues.

"One such formula has been prepared for the National Association of Tax Administrators which would combine all existing taxes on trucks into a single rate per mile. . . .

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Reciprocity Crisis

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"We are not opposed at all to the principle which underlies this plan, although we have commented adversely on some of the details contained in it as originally presented, and we call attention to the fact that any such plan to be truly reciprocal, in all its phases, must be uniform. . . ."

The NATA proposal referred to above (reviewed in CCJ, Jan., 1953, page 62, and March, 1953, page 151), as outlined in the suggested "Interstate Highway Use Tax Law," has as its policy ". . . to cooperate with other states in establishing a nondiscriminatory system of taxing highway use resulting from interstate operation of commercial vehicles. In furtherance of this policy, this law is designed to avoid multiple taxation of such highway use and to provide for taxation thereof on a mileage basis at rates that result in taxes commensurate with those imposed with respect to intrastate operations of comparable vehicles."

The Job Ahead

ASSUMING the success of the reciprocity committee meeting—it is a hard and tough problem they are tackling—and that a program is adopted, the business of putting it into effect is just beginning.

To obtain fair truck taxation in proportion to road use, each truck user must make known to his friends and neighbors the facts of the situation. This "public relations" effort must extend to his state legislators.

This is a sound business principle that the railroads have followed ever since the first "iron horse" began competing with the canals in our nation.

No business today can exist without it, much less grow and expand. It is twice as important in a business whose progress and profits are so closely controlled by state and federal regulation.

The Hot Spots

HERE is a brief summary of some of the critical points as they exist now. It could affect your truck use tomorrow.

Truck users who pay New York's ton-mile tax well know that tomorrow's legislature can wipe out today's exemptions. It was done last year. Now New York fleetmen are faced with a retaliatory tax in Georgia resulting from a law passed by that state to retaliate against Ohio. Further, the 10-state southern reciprocity group is planning a meeting late this month to consider its policy toward New York's ton-mile tax. It could lead to further reciprocity cancellation and retaliation.

Truck users in New Jersey, who last year successfully proved that a ton-mile tax was not in the best interest of their state, are even now preparing to do the job all over again. Before it was an "automobile users" group, aided and abetted by the eastern railroads through their public relations consultant—Carl Byoir and Associates—that pushed the ton-mile tax. Now a new group, said to be composed of various AAA organizations in the state, are working for a ton-mile tax on trucks. If passed, it could easily result in a similar breakdown of reciprocity and in an increase of retaliatory taxation as has New York's ton-mile tax and Ohio's axle-mile tax.

In Colorado, where the initial rate and private carrier exemption from the ton-mile tax was insufficient to unite truck fleet operators in a successful all-out fight against it, the situation is critical. As this is being written, a new ton-mile tax on average gross weight and presumably including private car-

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Reciprocity Crisis

Continued from Page 133

riers has passed both houses. This action came despite truck user efforts to reach a compromise increase in registration fees and gasoline tax.

The railroads of Virginia have advocated in newspaper advertisements that reciprocity be abolished and that a weight-distance tax be enacted in place of the state's present gross receipts tax. A state study group, the Marr Commission, supported this view in its report and bills to accomplish these purposes are now before the state's legislature.

In Kentucky, the railroads have sent to all members of the state's legislature a complete proposal for a ton-mile tax on trucks of 18,000 lb or more GVW. Estimates were that it would take $15 million a year from truck operators using Kentucky roads.

Out in Wisconsin, fleet operators who thought that state's ton-mile tax dead found otherwise. A lower court decision last year resulted in the legislature repealing the tax. Last month, the state's Supreme Court reversed the lower court's decision, found the ton-mile tax to be constitutional. Now Wisconsin's Motor Vehicle Commissioner says carriers who failed to pay the tax for April, May and June, 1953 (up to the time it was repealed) must pay the amount due with 5 per cent interest dating from April 1, 1953.

Ohio Situation

OUT IN Ohio, the biggest hot spot, reports indicate that fleets are keeping one eye on the pending court case seeking to have the axle-mile tax declared unconstitutional (Feb. issue, page 62) and the other eye on the April 1 deadline for buying new Ohio license tags. If the case does not get to first base, several fleets look ready to leave the state.

Latest on the court case at press time was that the three judge federal court had ruled that the *state* court had jurisdiction by a two to one vote. The truck operators have filed a motion asking that the decision be reconsidered, and that the case be tried in the federal district court.

The *Wall Street Journal* noted that tax collections were running at an annual rate of $12 million—based on the first three months—as compared to the $20 million annually that had generally been forecast the tax would raise.

Dance Freight Lines, Inc., Cincinnati, Ohio, has announced plans to move its home offices to Lexington, Ky. The fleet owns about 100 tractors and 200 trail-

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Reciprocity Crisis

Continued from Page 134

ers, is reported to figure on saving about $15,000 by licensing its fleet in Kentucky.

Dixie-Ohio Trucking Co., Akron, Ohio, noting Kentucky's levy of $300 per truck on Ohio trucks, says that if all the states it travels in follow suit it would cost about $1360 more per vehicle per year or close to $250,000 altogether. The fleet is giving consideration to moving its home office.

Another Ohio fleet, Humes Transfer Co., was reported as having decided to move its home office to Weirton, West Va. Estimated loss to Ohio in gasoline taxes and license fees is $100,000.

Says the *Journal*, "Between 30 and 40 large trucking companies based in Ohio are planning to move their operations to other states, as a result of the 'reciprocity war' developing between Ohio and 17 other states."

Federal Licensing?

HEARINGS were scheduled late last month on Ohio Congressman Ayres' resolution authorizing federal investigation of barriers to interstate highway commerce and consideration of federal licensing of interstate commercial vehicles. Other voices supporting such moves heard earlier included:

Ohio State Legislature Representative Roger Cloud, author and co-sponsor of the axle-mile tax, said, "The principle of highway-use taxing of big trucks is very sound and equitable, but the Congress should do it." He is reported to have admitted that individual state highway use taxes, including Ohio's axle-mile tax, are destroying reciprocity.

Ohio Governor Frank J. Lausche commented, "The cost of building roads requires a tax based on the mileage traveled and the weight carried. If the states do not work it out, it inevitably will have to be worked out by the federal Congress."

In Kentucky, a joint resolution (HR 31) was introduced into the state's legislature asking Congress to study interstate truck taxation, apportionment of truck taxes to state and federal highways, and the feasibility of the federal government taxing interstate trucks.

Start Now

SMALL bright spot in the situation is that many fleet operators have the opportunity to develop in their own states the public opinion and support necessary to obtain legislative action on a positive program that will bring a halt to excessive taxation, reciprocity breakdown and retaliatory action.

Now is the time to start working to save your revenue from unnecessary taxation.

This is the "off-year" for state legislative action. Bulk of the legislatures of the 48 states will not meet until 1955. Fleet operators, working in close cooperation with their state associations, can save themselves from "breaking" under a load of multiple taxation.

Any positive program advanced by the trucking industry depends for its success on public acceptance of the facts. Individual truck users must convince the public and its elected representatives that the trucking industry deserves the "better deal" it is asking for. If truck users fail to do this—or ask someone else to do it—they will get only the "tough deal" being sold the public by anti-truck interests and others who do not understand (1) the real facts of highway damage and truck taxation, and (2) the economic importance of the trucking industry to the continued growth and prosperity of our great country.

END

Please Resume Reading Page 66

saving filter deal
...featuring the new
PUR-PAK element
low-cost fleet package

Call your jobber today. Ask him about the special fleet package deal on new Purolator PUR-PAK filter elements. The price is *low!*

ENGINEERED especially for fleet service—to give you *dependable* filtration at minimum cost, Purolator PUR-PAK filter elements are the answer to your low-budget filter maintenance problems.

PUR-PAK elements are constructed of the finest, selected, lint-free cotton fibre, field- and lab-tested; give maximum service in oil filter applications. The dirt retention abilities of this filter are unsurpassed for its type.

Now's the time to go *Purolator* all the way . . . because Purolator has the complete fleet line. PUR-PAK for economy. MICRONIC* where only the *best* will do! They make an oil filter team that can't be beat for *any* fleet!

Remember, too . . . Purolator leads in automotive oil filtration. When you buy Purolator, your choice is backed by the world's largest filter research and production facilities. You're sure that the latest and best filter improvements will always reach you *first!*

Telephone your jobber right now. Ask him about the PUR-PAK carton package. You'll like the low, competitive price—the best filter protection for the smallest dollar investment.

*Trade mark reg. U. S. Pat. Off.

PurOlator

World's finest **OIL FILTER**

PUROLATOR PRODUCTS, INC., Rahway, New Jersey and Toronto, Ontario, Canada
Factory Branch Offices: Chicago, Detroit, Los Angeles

Truck Engines for Tomorrow—and Today

Continued from Page 79

This may be more popularly known, among fleetmen, as the exhaust supercharger. It has no mechanical connection with the engine, takes no engine power to operate. It operates on the waste exhaust gases which are fed into the turbocharger ahead of the muffler, converting much of the waste heated gases to additional power through boosting the intake manifold. One of the heavy-duty installations claims an increase of 50 per cent in power, under certain conditions.

At the recent SAE National Meeting, Rudolph Birmann of the DeLaval Steam Turbine Co. discussed recent installations of his company's turbochargers on large stationary engines. Instead of the 5-lb boost with ordinary supercharging, this turbocharger provides a boost from 15 to 30 lb. Consequently, it requires the use of another piece of equipment—the intercooler—to cool the air from the turbine to a lower temperature before entering the engine. This procedure, together with other engine refinements, boosts engine output by 50 per cent.

Whether or not such accessories can be scaled down and work as effectively on truck engines, and possibly motor car engines, is a matter for the experts. But there it is nudging engine designers.

Free Piston Engine

STILL another long range project is something that has not yet hit the papers. We refer to the free-piston engine. Like the gas turbine, the free-piston engine is being considered only in big sizes, in horsepower ratings far above normal automotive practice. In essence, it is in the form of a free-piston compressor which operates as an internal combustion engine—a special form of gasoline or diesel engine—without a crankshaft. Its function is to produce hot, high pressure gases which will then run a gas turbine and the latter will be the prime mover.

END

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TandemTrac Axle

Continued from Page 85

center of the chassis. Each pair of wheels can move laterally, right or left, a small amount, pivoting the TandemTrac beams about the main "rocking chair" bearing. When a right hand curve is encountered, the leading wheels move toward the outside of the curve, the radius arms swinging with them. The axle-end of the right hand radius arm turns to the left and toward the rear. The axle-end of the left hand arm, to the left and forward. The lead axle is then conforming to the road curve.

The second axle, at the same instant, is moving toward the right side of the curve and its radius rods are swinging with it. As a consequence, it is possible for the hub-to-hub distance on the inside of the curve to be less than the same measurement on the outside. This feature lets TandemTrac axles conform to the radius of any highway curve and at least partially to actual right angle corners. (On a left hand curve this procedure is, of course, reversed.)

END

Please Resume Reading Page 85

FLEETMAN'S LIBRARY

Highway Statistics, 1952, presents statistical and analytical tables on motor fuel taxation, motor vehicle registration, highway-use taxation, highway mileage and other data of interest to highway users for the year 1952. Copies of this 142-page report may be obtained for 75¢ each from Superintendent of Documents, Government Printing Office, Washington 25, D.C. Ask for Catalog No. C 37.2:H 53/952.

Resistor-type spark plugs are described in a new booklet available from The Electric Auto-Lite Co., distributors. Name of the booklet is "The Inside Story: Auto-Lite Resistor Spark Plugs." It tells how they work.

Chain hoists from ¼ to 25 ton capacity are covered in a new bulletin recently released. For a copy, write Harnischfeger Corp., Hoist Division, 4400 West National Ave., Milwaukee 46, Wis., asking for Bulletin No. H-32.

Full line of emulsion cleaners for spray-on method of removing grease and oil is described in a series of eight technical product data sheets available from Turco Products, Inc., 6135 South Central Ave., Los Angeles 1, Cal.

Mechanical inspection by the Magnaflux method is described in a new bulletin available from Magnaflux Corp., 7300 West Lawrence Ave., Chicago 31, Ill.

Air compressor catalog, No. 810, describes the full line of units made by Binks Mfg. Co., 3122 Carroll Ave., Chicago 12, Ill. Capacities are 2.2 to 105 cfm.

Federal-state relations in highway construction are well summarized in this pocket-size, 12-page booklet available for 10¢ from Construction and Civic Development department, Chamber of Commerce of the United States, Washington 6, D. C.

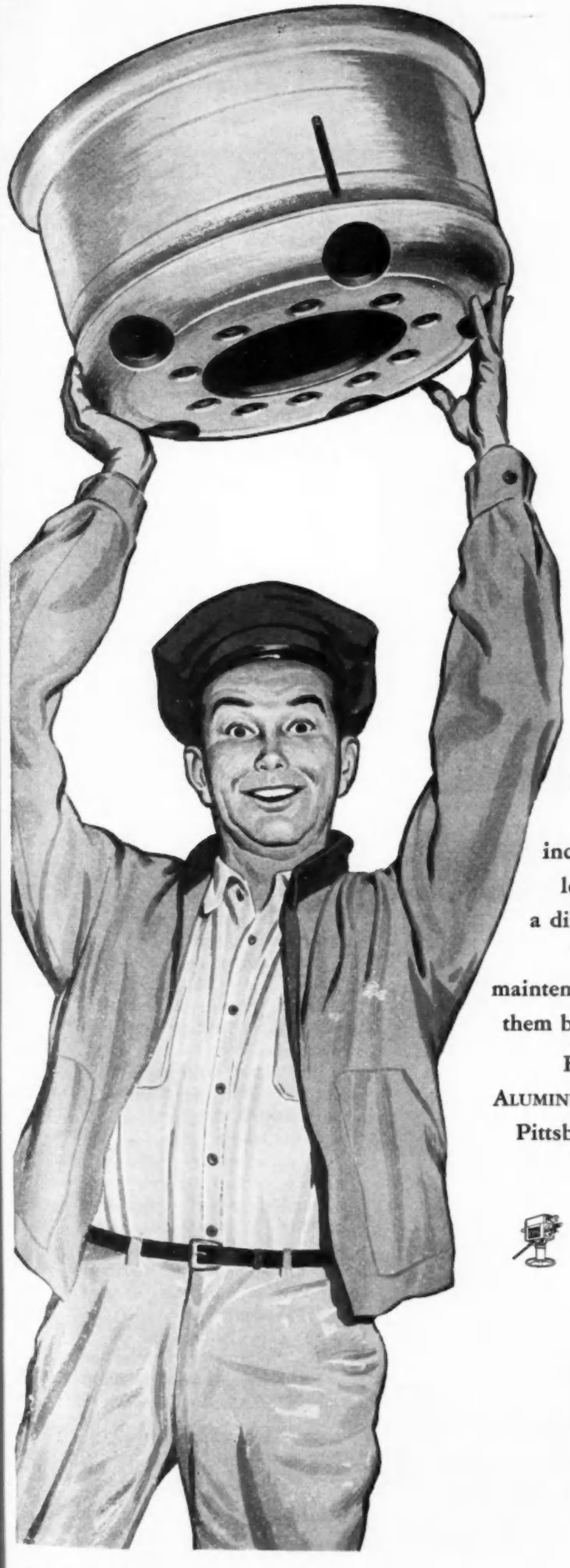
Construction hauling uses of Autocar trucks are described in a new 6-page folder available from Autocar Division, White Motor Co., Ardmore, Pa.

Pinion setting gage designed to take guesswork out of rear-axle overhauls is described in a new booklet available from Advertising Dept., Kent-Moore Organization, Inc., 5-105 General Motors Bldg., Detroit 2, Mich.

Special truck-trailer tank bodies for hauling various hard-to-handle liquids such as acids, glues, fruit juices, chemicals, insecticides, etc., are described in the folder, "Special Transportation Tanks" available from Portersville Stainless Equipment Corp., Portersville (Butler County), Pa. Private carriers with specialized commodity hauling problems will be interested.

Truck Dispatching systems using mechanized business machines are described in a new folder, No. KD 731, available from Remington Rand, Inc., 315 Fourth Ave., New York 10, N. Y.

Spray painting equipment, from hose connections and spray guns all the way through air compressors, exhaust fans, complete truck and bus fleet spray booths, is covered in this new catalog. Several helpful tips on spray painting operation are included. Write M and E Mfg. Co., 25th and Winthrop Ave., Indianapolis, Ind., for a copy of Catalog No. G-54.



It's great! It's available!

ALCOA®
Forged Aluminum Disc Wheel

These are the wheels made from genuine Alcoa Forgings! They save up to 50 pounds per wheel, 400 pounds per tandem axle! They allow a big increase in payload and because they weigh so much less and run so much cooler they make a whale of a difference in tire life! Alcoa Forged Aluminum Disc Wheels resist corrosion, require no painting—and maintenance is kept low because ordinary washing keeps them bright and attractive.

For full information on this modern wheel, write: ALUMINUM COMPANY OF AMERICA, 1871-C Alcoa Building, Pittsburgh 19, Pennsylvania.

ALCOA ON TV brings the world to your armchair with "SEE IT NOW" featuring Edward R. Murrow, Tuesday evenings on most CBS-TV stations.

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

Fruehauf Hi-Cube Aluminum Van

Continued from Page 90

in the sidewalls, through an improved corrugation, and through new welding techniques.

The outer corrugations come within one-quarter-inch of the outer edge of the rubrail. The thin side walls have been achieved without sacrifice of strength by over-lapping every third corrugation and riveting it from roof to rubrail down both sides. This actually provides a box-sectioned post every 18 in.

Also an integral part of the sidewall construction are 36 inch aluminum wear strips. These are plug sealed to prevent dirt from getting behind the strips. The rivets are driven from the outside with their smooth heads on the inside of the van to prevent cargo damage.

A six inch drop of the trailer floor between the wheels and the king pin provide for additional loading capacity. The 10⅜-in. die formed aluminum crossmembers located on 18-in. centers with shallower boxed or hat-shaped crossmembers over the upper coupler make this lower floor possible. Rear doors are only one inch thick, sealed with vinyl plastic and made of smooth sheet steel. Door hinges and hardware are only 1½ in. in width, thus permitting extra space to be utilized on the inside.

Ten inch radius corners are used on the front, yet due to the construction the inside is practically square. Plastic corner caps provide for some lighting for the inside. The nose is smooth, and 6 and 7-way electrical connectors are provided.

Weight savings are made possible not only through improved construction and fabrication but also in new component design. A five-spoke wheel replaces the old 6-spoke design. This reduces the unit weight by 54 lb per axle on 20-in. wheels and 67 lb per axle on 22 in. wheels. They are interchangeable with the old, however, so that changeovers can be made in present equipment.

New extra heavy-duty brakes offer 24 to 27 per cent increased lining area. The new design provides for longer lining life and is said to reduce the possibility of heat fade. The drums on a 22-in. base wheel have over 500 sq in. of contact surface. The drum has only one diameter; consequently only one linear surface speed and one rubbing velocity. This is said to give even wear and to permit uniform and fully controlled adjustment with simple replacement. Fruehauf is using a newly developed taper molded brake lining containing brass particles. Tests have proven these linings to have 20 per cent longer life.

New adjustable vertical supports are easier to raise and lower due to a combination of anti-friction needle bearings and new lower gear ratios on the crank operating shaft. Floating lift nuts on the lifting screws of the new supports compensate for any misalignment. This feature does away with side-binding which may be caused by uneven footing and which could cause excessively hard operation.

Air Spring Tandem

FRUEHAUF now has available the General "Air-Spring" tandem suspension for tank-trailers which re-

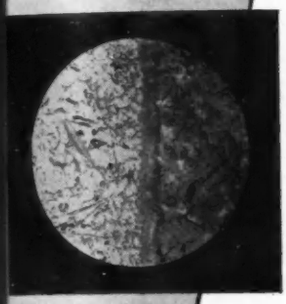
(TURN TO PAGE 148, PLEASE)

DUALOY

THE BI-METALLIC MOLECULAR BONDED PISTON

FLEET AVERAGES of 250,000 MILES

. . . and here's the PROOF!



Photomicrograph of DUALOY Bimetallic Molecular Bond

Enlarged cutaway of DUALOY Ni-resist ring groove

Rio Grande Motor Way, Inc.

GENERAL OFFICE
775 WAZEE STREET
DENVER, COLORADO

August 19, 1953

Mr. H. G. Reynolds, Sales Manager
United Engine and Machine Company
310 Preda Street
San Leandro, California

Dear Mr. Reynolds:

I want to tell you about the phenomenal results we have experienced with your Al-Fin bonded "DUALOY" pistons. The engines that we are using are Mack model 707 gasoline type, operating in mountainous territory at altitudes ranging from 4,000 to 12,500 feet. The extensive amount of operation in lower gears results in engine mileages about one-third greater than the actual truck mileages. However, on truck mileages, our fleet of Mack tractors is averaging over 250,000 miles on one set of liners, rings, and pistons.

In flat country operation, this would be equivalent to approximately 330,000 miles because of the lower gear factor. In fact, several engines have already exceeded 300,000 miles. The limiting factors on the engine's life are varied and include crankshaft breakage, camshaft and camshaft lifter wear and ring wear, but we have had only a very few cases of piston trouble. The pistons, after being used in one engine, are reground, i.e., from .030 to .020 for oversize liners, and re-used in another engine.

We have never had an instance of the bonded-in ferrous ring carrier loosening. In two cases in which valves dropped into the combustion chamber, the ring band held the piston together and prevented the usually expected extensive damage.

Our experience with Al-Fin bonded "DUALOY" pistons covers a period of over four years and, in our opinion, the "DUALOY" bi-metallic piston is absolutely essential to obtain maximum mileage between overhauls by the elimination of ring groove wear troubles.

Very truly yours,

J. L. Dunn

J. L. Dunn
Mechanical Supervisor
Rio Grande Motorway, Inc.

*Trade Mark Registered

*Dualoy Pistons are manufactured under Patents 2,386,730, 2,455,457 and 2,550,879.

DUALOY* pistons give you the lightness of aluminum, plus the wear resistance of Ni-resist iron. They last—and last—and last because the top ring is cut in an inset of Ni-resist iron which is molecularly bonded into the aluminum body of the piston. Wear on ring is negligible, ring remains in place, piston does not burn out, compression is maintained, engine runs smoother—longer—more efficiently.

UNITED ENGINE AND MACHINE COMPANY

310 PREDA STREET · SAN LEANDRO, CALIFORNIA

Fruehauf Hi-Cube Van

Continued from Page 144

quire an exceptionally soft ride. An important feature is that the air pressure in this suspension automatically varies to suit the load so that a soft ride is obtained even when the tank is running empty. This eliminates a very prolific source of tank damage. The fact that the height remains constant whether empty or loaded due to variable air pressure, permits lowest possible mounting with minimum provisions for tire clearance. This means a lower center of gravity and greater safety.

The gravity tandem has been improved in the new models. Highly polished threaded sleeves replace the wire coils formerly used on the lever arms. Plastic threaded bushings have been used to give longer wearing life. In addition improvements have been made to the lever arm to reduce the possibility of its turning in the shackle. Thus, the new plastic bushings take all the wear.

All equipment has the ICC bumper, streamlined, of square box construction and set flush with rear rail. Construction also provides for protection to lights and reflectors. Another new feature of all equipment is protection for brake lines and wiring cables in the form of a square steel tube which runs full length of the trailer beneath the crossmembers.

Platform trailers are lighter and stronger. The aluminum job has extruded aluminum flooring and wood nailing strips running down sides and center. Recessed bull rings are standard equipment as are inside stake pockets. The main frame longitudinal members are 16 in. deep on this model, providing for heavier, more concentrated loads without trussing. They help to reduce weight as much as 600 lb per unit.

Stainless Steel Vans

THE NEW stainless steel vans for dry freight or for refrigerated cargo, feature redesigned under-construction which makes it easier to adjust to weights and loads. A narrow skirt at the rear eliminates the necessity of having wheel cut outs. This and the shallower hat-shaped sub frame cross beams provides greater flexibility in locating axles. The die-formed stainless steel cross members are located on 18 in. centers. A flanging and stiffening arrangement reduces weight of these members while still providing for rigidity and strength. Overall strength of the body has been increased by making nearly twice as many welds in corrugations at the posts.

The gasoline transport features a full length frame extending from coupler plate to rear bumper. Flanged and dimpled baffle plates provide for stiffening of the tank, while L-shaped braces welded to each head add strength without sacrificing weight.

The upper coupler with its king pin is bolted to the front end of the frame so that it can be adjusted easily to provide the best distribution of weight for top payloads. New lightweight emergency valves and manifold valves are other features which contribute to the weight savings of this model.

END

Please Resume Reading Page 92

SLIM 'N GREASY SAYS: WHAT WITH NECKLINES GITTIN' LOWER AN' LOWER AND DRESS SAYING THAT SKIRTS WILL HAVE TO GO HIGHER, IT'S A DURN GOOD THING WOMEN ARE WEARIN' THOSE WIDE BELTS.

Liberty Transfer and Storage Co., Portland, Ore., has been merged with **Northwestern Transfer Co.,** of the same city.

North American Van Lines, Inc., Fort Wayne, Ind., has begun construction of new eastern regional offices at Clifton, N. J. Cost is about $100,000.

Hancock Trucking Co., Inc., Chicago, has opened a new terminal in Indianapolis, Ind., terminal. Featured is mechanized pallet handling and 35 truck doors.

North American Van Lines, Inc., Fort Wayne, Ind., has entered into a service agreement with **Lyon Van and Storage Co., Los Angeles, Cal.** Lyons will turn over to North American noncompetitive traffic where best interest of shipper is so served.

Morrison Motor Freight, Inc., Akron, Ohio, announces full operation at its new headquarters, including office building, terminal, garage and paint shop.

Atlantic States Motor Lines, High Point, N. C., has begun operations along the eastern seaboard after leasing its rights for seven years to **McLean Trucking Co.**

Niagara Freight Corp., Utica, N. Y., has begun operations from its new $75,000, 20-door terminal in New York Mills, N. Y.

Daniels Motor Freight, Inc., Youngstown, Ohio, is laying plans to build an over $100,000 main office and steel terminal there. Later a complete maintenance garage will be built.

Dixie-Ohio Express Co., Akron, Ohio, announces a reduction in its accident rate of 25 per cent in 1953 as compared to 1952.

Holmes Transportation Co., Worcester, Mass., won first place in the city Safety Council's contest in the over 25 drivers class. **Tucker Transportation Co.,** Fitchburg, Mass., won the prize in the under 25 drivers group.

Pilot Freight Carriers, Inc., Winston-Salem, N. C., has begun full operation in its $150,000, 24-door Buffalo, N. Y., terminal.

Hall's Motor Transit Co., Sunbury, Pa., has announced completion of three new terminals—Franklin, Pa.; Erie, Pa.; and Elmira, N. Y.

Wilson Truck System, Sioux Falls, S. D., has moved into its new terminal in Chicago.


At Last!
A Heavy Duty Truck with ★ Power ★ Safety
WELDED SEAMS
16 GAUGE INNER TUBES
16 GAUGE OUTER SHELL
NON-CLOGGING EXTRUDED HOLES
WELDED HEADS
RESONATING CHAMBERS
12 GAUGE OUTER HEADS
SILENT POWER with AP
*PAT. APP. FOR

Fleet Training Courses

FLEET training courses have shown themselves an excellent source of trained personnel and a good way to keep up-to-date on latest techniques in fleet safety, maintenance and operation. For your convenience, here is a calendar of courses scheduled for 1954 together with the address to write to for further information. Unless otherwise noted, courses are full time day courses.

MARCH

8-12—Dispatchers and Warehouse Foremen Training Course—Continuing Education Dept., Michigan State College, East Lansing, Mich.

15-19—Fleet Supervisors Training Institute—Short Courses and Conferenecs Dept., University of Oklahoma, Norman, Okla.

15-19—Vehicle Maintenance Course—University of Toronto, Toronto, Ontario, Canada.

18-May 20—Vehicle Maintenance Course—Continuing Education Dept., Michigan State College, East Lansing, Mich. (To be held in Detroit, once a week, evenings.)

22-24—Motor Vehicle Maintenance Conference—Dept. of Civil Engineering, University of Washington, Seattle 5, Wash.

22-Apr. 2—Administration and Techniques of Accident Investigation—Traffic Management Institute, Northeastern University, Boston, Mass.

22-Apr. 17—Truck Driver Training School, College Extension Division, North Carolina State College, Raleigh, N. C.

29-Apr. 2—Basic Motor Vehicle Fleet Supervisors Training Course—Dept. of Civil Engineering, Oregon State College, Corvallis, Ore.

APRIL

5- 9—Fleet Supervisors Training Course—Dept. of Engineering, University of Maryland, College Park, Md.

5- 9—Fleet Suupervisors Training Course—Dept. of Civil Engineering, Unversity of Washington, Seattle 5, Wash.

19-23—Fleet Supervisors Training Course—General Extension Division, University of Florida, Gainesville, Fla.

19-23—Vehicle Maintenance Course—Continuing Education Dept., Michigan State College, East Lansing, Mich.

26-30—Course for Trainers of Commercial Drivers—Continuing Education Dept., Michigan State College, East Lansing, Mich.

26-30—Fleet Supervisors Training Course—Transportation and Traffic Management Institute, Northeastern University, Boston 15, Mass.

26-30—Fleet Supervisors Training Course—College of Business Administration, University of Tennessee, Knoxville, Tenn.

26-May 7—Administration and Technique of Accident Investigation—Vocational and Industrial Education Dept., University of Alabama, Tuscaloosa, Ala.

26-May 14—Administration and Technique of Accident Investigation—Traffic Institute, Northwestern University, Evanston, Ill.

26-May 22—Truck Driver Training School, College Extension Division, North Carolina State College, Raleigh, N. C.

MAY

3- 7—Vehicle Maintenance Course—Institute of Public Safety, Pennsylvania State University, State College, Pa.

INTRODUCING . . .

. . . **Harold E. Hughes,** appointed field representative, Iowa Motor Truck Assn., Des Moines, Iowa.

. . . **Anthony J. LaBonia,** named field safety supervisor, Akers Motor Lines, Inc., Atlanta, Ga.

. . . **Martin B. Holt,** district manager, Bekins Van and Storage Co., elected president, Draymen's Assn. of Alameda County, Oakland, Cal.

. . . **Edward J. Lamm,** promoted to vice president—operations and personnel, Schumacher Motor Express, Inc., Eau Claire, Wis.

. . . **Fred S. Neumann,** promoted to general sales manager, Fruehauf Trailer Co., Detroit.

. . . **R. E. Fisher,** promoted to vice president in charge of sales Eaton Mfg. Co., Cleveland, O.

. . . **A. G. Orscheln,** vice president, Orscheln Brothers Truck Lines, Inc., elected president, Highway Carriers of Greater Kansas City, Kansas City, Mo.

. . . **Malloy Dixon,** terminal manager, Interstate Dispatch, Inc., elected president, Cincinnati Motor Transportation Club, Cincinnati, Ohio.

. . . **J. Arthur Ramsey,** promoted to parts service manager, Autocar Division, The White Motor Car Co., Ardmore, Pa.

. . . **Jay Harris,** promoted to service manager, Grizzly Mfg. Co., Paulding, Ohio.

. . . **Lawrence M. Olson,** appointed general sales manager, Moly Motor Products Corp., New York City.

. . . **S. A. Hill,** appointed director of government traffic, Associated Transport, Inc., New York City.

. . . **W. J. Kennedy,** general manager, Supreme Express and Transfer Co., elected president, Assn. of Team and Truck Owners, St. Louis, Mo.

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TRIPLE PROTECTION

ON THE Berg SHUR-LOCK and ROYAL TRACTOR-TRAILER CONNECTORS

1 **AUTOMATIC LOCKING COVER**

2 **FULL RANGE TIGER-TOOTH CLAMP**

and now the NEW Berg

3 SAFETY-PULL FINGER GRIP

WHY HAVE THIS HAPPEN?

WHEN YOU CAN DO IT SAFELY LIKE THIS!

The new SAFETY-PULL FINGER GRIP eliminates tearing of cable from plug and loosened cable contacts...because your drivers never have to pull or jerk the cable to release the male plug. It provides a sure, safe, quick method of coupling and uncoupling — saves your equipment. Furnished at No Extra Cost.

Berg SHUR-LOCK 4-Way and 6-Way CONNECTOR (Trademark Reg.)

ONLY *Berg* GIVES YOU TRIPLE PROTECTION!

The *NEW Berg* SAFETY-PULL FINGER GRIP on the new collar of the *Berg* SHUR-LOCK and ROYAL Connectors.

The full range TIGER TOOTH CLAMP that tightens on any cable and makes cable protectors unnecessary.

And the instant and positive AUTOMATIC LOCKING COVER with the Safety Shear Point that prevents cable breakage or damage.

Berg ROYAL 6-Way CONNECTOR

For complete details contact your local jobber, truck trailer manufacturer or write direct to

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MANUFACTURING & SALES CO., INC.

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Manufacturers of the Berg SHUR-LOCK, ROYAL, UNIVERSAL and DELUXE TRACTOR-TRAILER CONNECTORS, VARI-VOLT and REDUCT-O-VOLT VOLTAGE CONVERTERS, DUO and QUAD RESISTOR CONTROLS, SAFE-AIR LOW PRESSURE INDICATORS, SHO-GLO LAMPS, TRAILER LIGHTING CABLES, LOOM

Berg Products are Warehoused in Chicago, Boston, Los Angeles, San Francisco, Portland, Oregon, and in Toronto, Ontario, Canada.

Introducing . . .

Continued from Page 154

. . . **William San Antonio,** appointed operational vice president, Hartford Transportation Co., Inc., Newington, Conn.

. . . **Kenneth C. Cole,** appointed safety supervisor, Strickland Transportation Co., Inc., Dallas, Texas.

. . . **George C. Whalen,** appointed chief, Insurance Section, Bureau of Motor Carriers, Interstate Commerce Commission, Washington, D. C.

. . . **Maurice M. Kelleher,** made president and general manager, Chicago Northwest Express, Inc., Chicago.

. . . **James B. Lightburn,** promoted to general sales manager, After Market Sales Division, Purolator Products, Inc., Rahway, N. J.

. . . **Lloyd M. Lanotte,** elected vice president, T.I.M.E., Inc., Lubbock, Texas.

. . . **Leroy Field, Jr., E. L. Forbell** and **F. J. Hoette,** promoted to executive vice president, vice president—operations and vice president—maintenance respectively, Chicago Express, Inc.

. . . **Bruce W. Wert,** promoted to assistant manager, advertising and sales promotion departments, The Goodyear Tire and Rubber Co., Akron, Ohio.

. . . **Royal R. Seitz,** promoted to vice president, Michigan Motor Freight Lines, Inc., Detroit. He will continue as manager of operations.

. . . **Milton W. Sparks,** Chattanooga, Tenn., terminal manager for Super Service Motor Freight Co., elected a director of the Chattanooga Chamber of Commerce.

. . . **Harry W. Crank,** appointed tank trailer sales manager, Trailmobile, Inc., Cincinnati, Ohio.

. . . **Zorum Hurt,** promoted to refrigerated division general maager, Ringsby Truck Lines, Inc., Denver, Col.

. . . **Howard M. Palmer,** promoted to sales vice president, Lewis-Shepard Products, Inc., Watertown, Mass.

. . . **Maynard A. Laswell,** appointed vice president in charge of sales, Pyrene Mfg. Co., Newark, N. J. He will continue as vice president in charge of sales, C-O-Two Fire Equipment Co.

. . . **J. A. Fouche,** promoted to assistant general sales manager, Seiberling Rubber Co., Akron, Ohio.

. . . **Roy H. Stewart,** appointed operations engineer and acting secretary, Terminal Operations Council, American Trucking Assns., Washington, D. C.

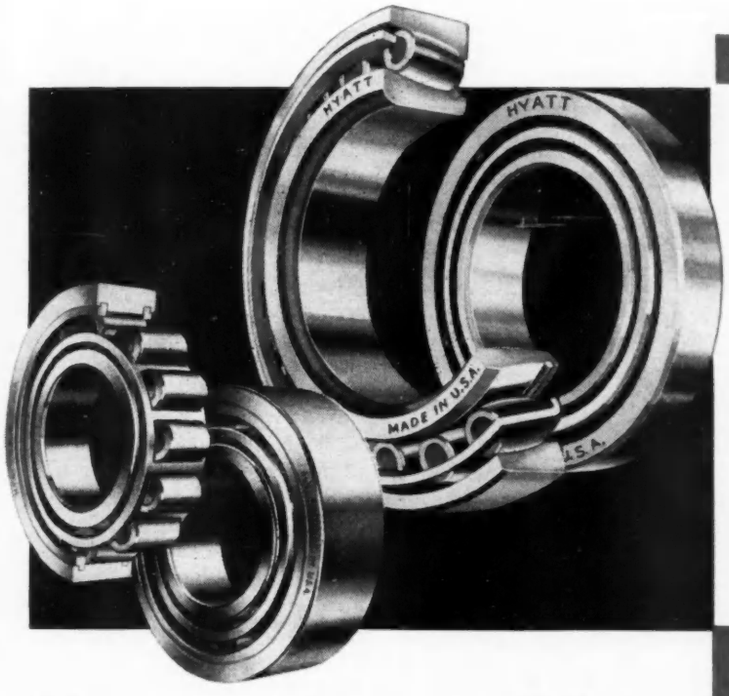
. . . **Barrett Kirkendall,** promoted to Cleveland, Ohio, district manager, The Firestone Tire and Rubber Co., Akron, Ohio.

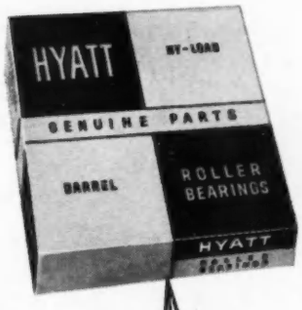
. . . **Lawrence D. Hartford,** left, and **Robert C. Mackenzie,** right, promoted to sales vice presidents, Dunlop Tire and Rubber Corp., Buffalo, N. Y.

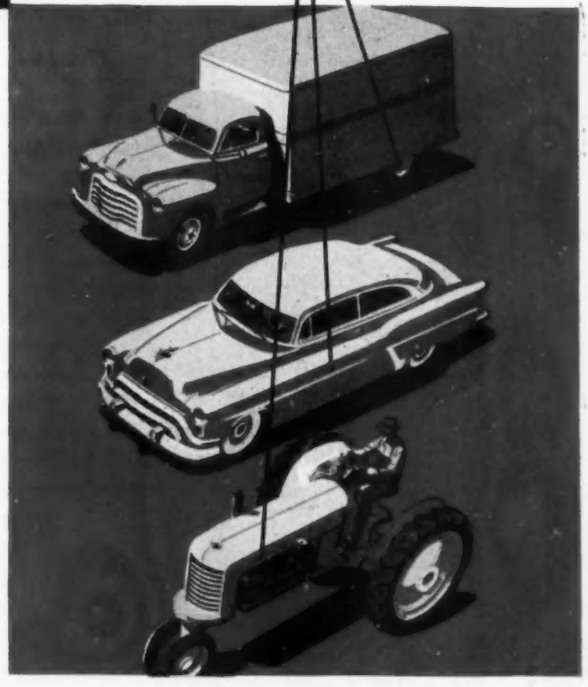
GENUINE HYATT BEARINGS!

Best for Factory Installation . . .

Best for Replacement, Too—







When you replace a roller bearing—Straight, Barrel or Taper—you have a choice of several different makes of replacements. But only *one*—the genuine *Hyatt* Bearing—gives you a replacement of *quality*, as well as size and type. When you install Hyatts, you know you're using the same high-quality bearings that are preferred for factory installation by a majority of automobile, truck, bus and tractor manufacturers. So make the *one sure choice*. Insist on genuine *Hyatt* Bearings for all your replacements.

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DISTRIBUTED BY DEALERS EVERYWHERE

HYATT ROLLER BEARINGS

STRAIGHT — BARREL — TAPER

HYATT BEARINGS DIVISION • GENERAL MOTORS CORP. • HARRISON, N. J.

March Roundup

Continued from Page 62

Other TOF Moves

In summary, other trailer-on-flatcar developments last month included:

1. A petition to the Interstate Commerce Commission asking that Chicago and Northwestern Railway's "piggy-back" operation be stopped on the grounds that the rail carrier's rights do not include offering lcl service using highway trailers on flatcars.

1953 Domestic Truck Factory Sales by G.V.W.*

	5,000 lb. and less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January	47,234	19,101	3,669	12,622	3,344	8,271	3,638	97,879
February	40,616	16,600	3,087	11,068	3,409	7,261	3,811	86,212
March	55,910	22,798	5,588	19,354	4,776	9,067	4,550	122,043
April	51,743	23,352	5,078	17,700	4,287	8,200	4,427	114,787
May	39,635	14,428	2,729	10,788	3,982	7,481	3,390	82,433
June	31,516	10,148	1,575	7,700	3,567	7,687	3,870	66,063
July	45,857	16,564	3,437	12,956	3,442	7,051	3,481	92,788
August	43,833	16,489	3,397	12,385	3,370	6,356	4,081	89,911
September	45,175	15,958	3,096	11,207	3,974	4,625	3,884	86,819
October	40,679	15,218	2,702	10,097	2,860	4,005	3,980	79,541
November	37,447	11,309	2,544	9,552	1,916	4,574	3,439	64,781
December	39,010	14,945	2,747	12,308	2,592	5,208	3,414	80,224
12 Months—1953	512,655	196,910	39,649	147,737	40,519	80,146	45,965	1,063,561
12 Months—1952	454,055	206,935	47,494	168,770	33,121	97,559	43,190	1,051,124

* Automobile Manufacturers Association.

2. A motion by the National Industrial Traffic League filed with the ICC asking that the Commission answer only questions of law concerning rail-trailer service and not search for possible regulation. NITL says the ICC lacks authority to issue such regulation.

3. Recommendation to the ICC by American Trucking Association's Committee on Rail-Trailer Operations that "pre-hearing" of views of all interested parties be held before any proposed rules regulating "piggy-back" service are issued.

4. Extension to March 15 of the deadline for filing suggestions and views on rail-trailer operation with the ICC. The case is docketed as proceeding No. 31375.

5. New York Central Railroad President William White's statement, ". . . There are some people who advocate piggy-back operation as a panacea for highway congestion. That view we do not support. . . ."

6. Southern Pacific Railroad's announcement of new "piggy-back" service to and from several points in Texas and Louisiana.

7. Private Truck Council of America's resolution asking that trailer-on-flatcar operation be freely open to both private and for-hire truck users (See page 71 this issue).

8. ATA's Common Carrier Conference Board of Governors' resolution asking that rail-trailer operation be conducted under joint rate agreements between truck common carriers and railway common carriers.

9. Comment by Brotherhood of Railway Trainmen President W. P. Kennedy that trailer-on-flatcar operation may be the railroad's ". . . last chance to preserve the (railroad) industry as a private enterprise."

Trucking Education

American Trucking Association's National Committee on Education, has announced that 57 scholarships are now offered by 26 motor carrier and allied industry firms. The scholarships have a total value of $27,750. The Committee also announced results of a survey

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March Roundup

Continued from Page 158

conducted to determine the type of courses in transportation currently being offered in colleges and universities.

Nine schools are reported to offer courses and programs in transportation which have been approved by the Educators Advisory Committee to the ATA National Committee on Education. The survey also revealed that 53 schools have courses in motor transport, 54 schools have courses in traffic management, and 200 schools reported some sort of course or program in transportation.

1953 Truck Trailer Shipments*

	December	Twelve Months
Vans		
Insulated and Refrigerated		
Steel	77	879
Aluminum	230	3,187
Furniture		
Steel	87	1,450
Aluminum		
All other closed-top vans		
Steel	870	11,566
Aluminum	558	10,563
Open-top		
Steel	117	1,738
Aluminum	141	2,109
Total—Vans	2,080	31,492
Tanks		
Petroleum	330	3,808
Food		
L. P. G.	62	839
All Other		
Total—Tanks	392	4,647
Pole, Pipe and Logging		
Single Axle	52	608
Tandem Axle	39	981
Total	91	1,589
Platforms		
Racks, livestock and stake	67	4,195
Grain bodies	24	897
Flats, all types	418	9,016
Total—Platform	509	14,108
Low-bed haulers	418	5,401
Dump trailers	45	990
All other trailers**	2,325	35,707
Total—Complete Trailers	5,860	93,934
Chassis only	397	4,351
Total—Trailers and Chassis	6,257	97,258

* Industry Division, Bureau of the Census.
** Includes converter dollies.

Autocar Lightweights

To lighten the weight problem for West coast truckers, Autocar Division, The White Motor Co., Ardmore, Pa., has designed two special lightweight models for heavy hauling. They have an all-aluminum cab and made widespread use of aluminum and aluminum alloy parts in the rest of the chassis.

Both six-wheelers, one of the new models is powered with the V-8 engine and the other with a diesel. The cab, which is exactly the same in appearance as the all-steel cab, the motor hood and most cross-members of the chassis are aluminum as are the transmission case

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